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THE JOURNAL OF PERIODONTOLOGY is published to serve as the professional journal of periodontia; to keep dentists in touch with research being carried on in this field and related sciences; to stimulate greater interest in the supporting tissues of the teeth and their relation to oral and general health. The plan to continue the publication of abstracts indefinitely will make the Journal a fund of extensive information, readily available to students, teachers, researchers and clinicians.

The Journal is the official organ of the American Academy of Periodontology and will contain therefore those papers of scientific interest which are presented at the annual meetings of that society. The entire proceedings of the 1934 annual meeting will be published in the January 1935 issue. This number contains the abstracts of articles on periodontia which appeared in the year 1933.

We are grateful to all who have made available the subject matter from which the abstracts and copies have been made, including the authors of the original articles, the Journals mentioned in the text of the abstract section, and those who have aided in any way in compiling the material presented.

We also wish to express our appreciation for the encouragement from many sources, especially from librarians, teachers and those active in dental journalism. The value of this cannot be overestimated, and we shall make every effort to be worthy of their continued approval.

THE JOURNAL OF PERIODONTOLOGY

JULY, NINETEEN HUNDRED THIRTY-FOUR

A Review of Recent Literature on Dental Medicine[1]

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DENTAL Medicine, as generally understood, comprises those phases of dentistry having to do particularly with tissue reactions. In order to cover a rather large field in a moderate amount of time, it will be advantageous to take up the scientific advances in the most important dental diseases as influenced by systemic and other biologic factors, and then the advances made in the field of systemic diseases caused by dental abnormalities, with a short review of recent advances in oral therapeutics. Material for the report was gained by going over the articles and abstracts for the last two and a half years in the Journal of Dental Research, and the last year and a half in the Journal of the American Dental Association, and the Dental Cosmos.

Dental Caries

In the United States and Canada, the most intensive researches in dentistry are being devoted to the mechanism, and the causes of susceptibility, of dental caries. Studies on the different phases of the problem are under way in many institutions. Recent progress in the various phases will be briefly reviewed.

Important reports on the bacteriology of dental caries in the last two years have been published by Boyd, Zentmire and Drain;[1] Bunting;[2] Friesell and Enright;[3] Greenberg and Rosebury;[4] Hadley and Bunting;[5] Jay, Crowley, and Bunting;[6] Johnston, Kaake, and Agnew;[7] MacPhee;[8] and Weinstein, Anderson and Rettger.[9]

The idea that the bacillus acidophilus is the active cause of dental caries had up to this year been pretty generally accepted by workers in this field. It is always present in the carious cavity and may be the only organism to be found deep in the carious dentin. It is the only mouth organism capable of producing and living in acidity of sufficient strength to dissolve tooth structures in the presence of saliva. It is usually not found in mouths which are caries free and, according to Jay, Crowley and Bunting,[6] if it is growing abundantly in such mouths, caries develops thereafter in short order.

In the last year, Boyd, Zentmire, and Drain,[1] have blasted this harmonious train of evidence by showing that in children in which active caries has been

[1]Read at the twenty-first Annual Meeting of the American Academy of Periodontology, 1934.

entirely arrested by putting them on the Boyd and Drain diet in a hospital, that there may be no diminution in the growth of bacillus acidophilus organisms in the mouths or in formerly carious cavities. Their findings go to show that microörganisms are merely incidental in the etiology of dental caries and need hardly be considered. Further work will need to determine the truth between these contradictory findings.

The bacillus acidophilus of dental caries is apparently not a strain definitely distinct from intestinal and other varieties. Conditions in carious areas on teeth may acclimate it to a greater resistance to acid than it otherwise would have, but it cannot be distinguished by colony form, morphology, or cultural characteristics, as a distinct strain.

Bunting and Jay and their co-workers [9] have advanced some interesting hypotheses regarding systemic immune reactions to these organisms and the possibility that such systemic immunity may account for freedom from dental caries. They are unable to grow the organisms in the mouths of persons who are immune to dental caries. Also in many such persons they get definite immune reactions to skin tests with the organisms. However, this work has not gone far enough and is too indefinite for conclusions to be drawn at this time.

Important dietary experiments on animals in the effort to produce and study dental caries are reported by Agnew, Agnew and Tisdall;[10] Bibby and Sedwick;[11] Hoppert, Webber and Canniff;[12] Klein;[13] Rosebury, Karshan, and Foley;[14] and Shelling and Asher.[15]

The finding of Hoppert, Webber and Canniff,[12] that large particles of ground grain in an adequate diet fed to white rats causes rapidly forming dental fissure caries is confirmed by Rosebury,[14] Bibby and Sedwick,[11] and the recent work of Klein.[13] Bibby and Sedwick[11] have recently advanced evidence that carious cavities produced in this way are actually fracture lesions but this is disputed by Rosebury,[14] who shows caries of dentin under fissures without fracture. Most of the workers find that the caries process, produced by the large grain particles, is more rapid in animals in which the diet is also deficient in phosphorus. In fact, according to Agnew, Agnew and Tisdall,[10] certain phosphorus deficient diets may lead to fissure caries in the absence of coarse grain particles. The reconciliation of these findings is not yet complete nor is the mechanism known by which a phosphorus deficiency affects the local caries process on the enamel surface.

Studies on the effects of controlled diets on children to prevent dental caries are reported by Agnew,[16] Brodsky,[17] Day and Sedwick,[18] Drain, Plass and Oberst,[19] Hanke and collaborators,[20] Jones, Larsen and Pritchard,[21] Koehne,[22] McBeath,[23] Mellanby and Pattison,[24] and Munblatt.[25] The findings of these studies all indicate that a diet which is highly protective in its mineral and vitamin content, irrespective of the proportions of energy foods, will very greatly reduce the incidence of dental caries, in fact completely arrest it in individuals that are not markedly susceptible. The essentials of the diet are a sufficiency of milk, butter, eggs, and raw and cooked fruits and vegetables. According to Hanke[20] and to

Brodsky,[17] a diet otherwise caries producing, which is supplemented with a large amount of orange juice, will cause a considerably lowered caries incidence. According to McBeath,[28] irradiation with ultra-violet light, and to Brodsky[17] the use of viosterol in conjunction with an otherwise caries producing diet, will cause a great reduction in caries incidence, in some cases as great as the generally highly protective diet. On the other hand, Day and Sedwick[18] compared the incidence of dental cavity formation over a long period between two large groups of children at the age of puberty, one group of which received vitamin A and D concentrate in addition to the regular institutional diet. Such addition appeared to give no protection.

Two theories are advanced as to the cause of benefit from a protective diet. One attributes it to a correction in the calcium-phosphorus—vitamin D metabolism, the other to its basic ash content.

Kugelmass, King and Bodecker,[26] show that infants raised on a diet which is distinctly basic in its ash are free of decay, while those on an acid ash have almost universally a high incidence. This confirms the work of Jones and her collaborators[21] in Hawaii where the use of grain which has an acid ash instead of taro and sweet potato of basic ash in the feeding of children, has led to a great decline in child health and universal rampant dental caries. While these findings are impressive, they are not confirmed by blood chemistry studies. An acid ash diet which will produce susceptibility to dental caries does not apparently affect the blood sufficiently to be detectable with present chemical tests.

The work of Kugelmass[26] and others, indicates that breast feeding of infants has little effect on the susceptibility to decay after the teeth erupt. According to the genetic studies of Detlefson,[27] heredity also has no effect on susceptibility to dental caries, although the points of attack may be somewhat modified by hereditary characteristics.

Bunting[3] is convinced from his observations, that reduction in sugar in the diet is important in the control of susceptibility in children. In animal experiments to date[29] however, the use of a diet high in sugar and chocolate and as adhesive as it can be made, has not had the effect of producing dental caries.

Many scientific observers[3] are now convinced that there are individuals which are inherently immune and will not develop dental caries even under the most unfavorable dietary and hygienic conditions, while others are so inherently susceptible that cavities will occur under the most favorable circumstances. What the inherent factors are and how they operate is still unknown.

Sprawson[30] in England, still contends that dental caries is largely due to the fact that the cow's milk is pasteurized, and that raw milk is protective. In partial confirmation, Kitchen and McFarland[30] find that pasteurization harms milk as a food for rats. Frazer,[31] on the other hand, contends that cow's milk is made more like human milk by pasteurization with the single exception that its vitamin C antiscorbutic property is destroyed. The weight of opinion of public health

authorities[32] seems to be in agreement with Frazer,[33] that milk is unharmed in its food properties by pasteurization with the single exception of its vitamin C factor which is poor, even in raw milk.

Several new studies of human groups in respect to the relation of dental caries incidence to environment are reported by Anderson,[34] Lennox,[35] Montelius,[36] and Price.[37] No important new facts are adduced from them.

Chemical studies of blood and saliva to determine chemical differences between the caries susceptible and non-susceptible states are reported by Brodsky,[38] Forbes and Gurley,[39] Price,[37] and Youngberg.[40] These mostly bear out the previous reports of reliable workers that no definite correlation exists between caries susceptibility and non-susceptibility and any known constituent of the blood or saliva. The average acid soluble phosphate in blood and saliva is found to be slightly lower in individuals with active caries, but the difference is by no means constant. Price[37] thinks he finds that in caries susceptible individuals, saliva placed in contact with bone powder will take up phosphorus from the bone powder, while in caries immune, the saliva will give up phosphorus to the bone powder. This has not been verified by other workers. Eddy[41] reports an extensive study of variations in salivary phosphorus in which he shows that the digestion and absorption of sugar is accompanied by a temporary reduction in salivary phosphate and consequent increase in alkalinity. He regards these temporary phosphate reductions as the possible periods when lime salts might be abstracted from the teeth under bacterial mats.

Several interesting studies have been reported on the dental plaque and on the chemistry of mucin. Dibbs[42] reports that plaques are only slightly permeable to electrolytes but carbohydrates diffuse slowly through them. Thus carbohydrates can reach the enamel under the plaque but buffer substances from the saliva cannot. Nichols, Hatton and Doherty[43] report that lactic acid, even as strongly acid as pH 3.8 has no effect on mucin either to dissolve or coagulate it. The lactic acid formed under a plaque can, therefore, presumably not escape but must remain to attack the calcium salts of the enamel.

Beust,[44] Bodecker,[45] Fish,[46] and others, have reported on various phases of physiology within the tooth. Accumulating evidence indicates that the dentin and inner layers of enamel at least are permeated in youth by fluids from the pulp and are affected by these fluids. The significance of their findings in the caries' problem is as yet undetermined.

In the field of dental caries' research, rapid progress is to be noted in the number of workers and laboratories engaged, and great improvement in methodology and in accurate critical observation.

Periodontal Diseases

Research in periodontology and periodontal diseases is most active in Germany, Switzerland and Austria. Studies are in progress chiefly along two lines: the effect of errors in metabolism on the periodontal tissues, and the relation of endo-

crine imbalances to changes of the gingiva and supporting bone. Much of the animal experimental work on nutrition in relation to dental caries has thrown light on the periodontal problem. Blackberg and Berke,[47] confirm the earlier findings of Howe and Grieves that defects in the calcium-phosphorus-vitamin D complex lead to destructive periodontal lesions of the teeth of experimental animals. The exact nature of the metabolic defect, and just how it operates, is not yet determined. In Europe, the authors represented by Jung,[48] and Held,[49] lean to the theory that acidosis leads to inflammatory lesions; alkalosis to the bone dystrophic forms of periodontoclasia. Grove and Grove[50] claim they find a definitely lowered blood phosphorus and increased calcium in patients with severe periodontoclasia of the vertical or bone resorption type. They treated their patients with an acid fruit and vegetable dietary yielding an alkaline ash with satisfying results. Weinman[51] also reports good results in alveolar atrophy by diets high in vegetables and fruit and low in meat and pastries. Stoloff,[52] Ziskin and Blackberg,[53] Reynolds,[54] and other investigators are working on endocrine hormones in relation to gingival changes. Stoloff[52] finds a definite increase in gingivitis during the menstrual period in most women. Ziskin, Blackberg and Stout,[53] have proved the existence of a definite gingival epithelial change with or without gross signs accompanying pregnancy or following the administration of the pregnancy hormone amniotin. A study of 36 cases of advanced periodontoclasia of the vertical or alveolar atrophy type by Reynolds,[54] showed 86 per cent had definite endocrine dysfunctions as indicated by clinical pathological tests or by apparent symptoms and of these dysfunctions hypothyroidism was the most frequent. Breuer[55] on the other hand, does not find any characteristic basal metabolic change related to the different forms of periodontoclasia. Healy[56] in a study of 101 cases of periodontoclasia, showed eosinophilia indicating an allergic condition in over half. Skin tests demonstrated an allergic sensitivity in a large number which were benefited by removal of contact with the antigen.

Many articles continue to appear about Vincent's infection. Aisenberg[57] presents further evidence that the fusiform organism is merely a phase or spore form of some of the oral leptothrices. Lichtenberg, Weiner and Volckman[58] adduce evidence that Vincent's organisms are normal inhabitants of the mouth and are saphrophytes that take advantage of mucous membrane lesions due to other causes. They tell their child patients with acute Vincent's infection that they will get well without treatment in a few days, and they do. Rosenthal[59] observes a much lessened incidence of acute Vincent's infection at the present time, and a greatly increased number of chronic Vincent cases.

In the field of oral protozoology Beatman[60] describes a trichomona buccalis found usually in insanitary mouths, infrequently in normal mouths. He suggests it may be pathogenic.

Studies of salivary calculus formation confirming Naeslund's work are reported by Grythe,[61] and by Taylor.[62] They find that certain leptothrices and

actinomycotic fungi on the teeth are able to lower the hydrogen ion concentration of the saliva in their neighborhood, thereby causing calcium salts to be deposited in and about them.

Dental Erosion

Only one important article on dental erosion appeared in the magazines reviewed. This one by Bodecker[65] indicates that outside of toothbrush abrasion and a rare form possibly caused by aberrations in secretion of the mucous glands of the lips and cheeks, that most erosion apparently occurs from an acid exudate from the gingival sulci. He gives appropriate local measures for overcoming the condition, first by the application of liquid vaseline, and second by the application of a remineralizing powder.

Mottled Enamel

Mottled enamel and its cause continues to be a matter of great interest since the discovery that a high fluorine content in drinking water causes it. Recent researches here and abroad confirm the fact, but add little that is new.

Root Canal and Pulp Therapy

In the field of root canal and periapical therapy, a good deal of interest has been aroused by the use of diathermy. The best studies are by Grossman[66] and by Stein,[67] and indicate that diathermy is of no value in this field by itself but that it does help in the diffusion and activation of appropriate drugs. Care must be used in its use to avoid causing necrosis of adjacent bone. Work continues to be reported by Orban[68] and others in Austria and Switzerland on the use of paraformaldehyde and other preservative materials in pulpotomy. From the evidence adduced this practice has a coming place especially in the field of pedodontia. Weber[69] has discovered a new test for pulpal disease by means of "chronaxia." This is a measurement of the time it takes for the pulpal nerves to respond to an electric test double that of the threshold stimulus. Gottlieb and Orban[68] have found that powdered sterilized dentin is well tolerated by soft tissues and may be used as a biologic pulp capping or root filling material where other substances cannot be tolerated.

Lesions of the Soft Tissues of the Mouth

Studies of lesions of the soft tissues of the mouth show some advances. Greenbaum[69] reports several cases of cheilitis venenata in which the lesions were caused definitely by sensitivity to the tobacco or paste used in certain brands of cigars. Merritt[70] reports on his experience with a hitherto little noted lesion desquamative gingivitis. Churchill[71] presents evidence that the different forms of epulides are simply different stages in a bone disease believed to be due to hyperparathyroidism, namely osteitis fibrosa. Agranulocytosis which commonly has concomitant mouth lesions has been discovered to be frequently caused by drugs of the nature of amidopyrine.

Grapp[72] reports a study of fetor oris in which he shows the source of odor to be located usually in a deposit of desquamated epithelium and microbic growth on

the dorsum and base of the tongue. Hollander, Schonfeld and Fisher,[73] report cases in which soft tissue lesions are caused by galvanic currents set up in the mouth by metals of different electrical potential in dental restorations.

Focal Infection

In the field of systemic diseases caused by oral and dental abnormalities, several worthwhile contributions have been made. Reports by Hubin[74] and by Marmasse[75] in Switzerland deal with cases of eye diseases, such as loosening of the retina, keratitis and iritis due definitely to dental infection traveling through adjacent tissues. The cases were cured by removal of the primary foci. Wharton[76] lists twelve eye diseases caused by focal infection and says the teeth are ten times as frequently the primary source as the tonsils. The upper teeth are more frequently involved than the lower. Accumulating evidence by several internists indicates that rheumatic heart disease is a toxic or allergic condition due to streptococcus hemolyticus infection in the throat or elsewhere. On the other hand, the dreaded bacterial endocarditis, according to Gular,[77] Pearson,[78] Russell[79] and others, is a streptococcus viridans infection of the heart valves coming evidently from a bacteremia, which in turn may be dental in origin. Arnett and Ennis[80] studying a group of 883 students in a Pennsylvania college for relation between discovered systemic lesions and periapical infections as seen in radiographs, find no definite correlation and assume that in young individuals, these local infections have not yet begun to cause systemic effects. They do not draw the conclusion that periapical infections are not potentially dangerous to systemic health. Saussier[81] found many cases of eczema, urticaria, pyodermatitis, herpes zoster and other skin lesions, some of which were of many years' standing, which yielded to removal of dental sepsis. Dreyfus and Lapit[82] report two cases of intractable hemorrhage from the intestine, which were quickly cured by removing periapically infected teeth. Pearson[83] differentiates the types of arthritis in which some benefit may be hoped from removal of infective foci, namely the chronic infectious arthritis of nonspecific type. In chronic arthritis of chemical, traumatic or senescent types dental infection does not play a direct part.

In a recent article by Rosenow,[84] he recapitulates his work and theories and gives additional evidence of selective localizing power on the part of streptococcus viridans grown under different cultural conditions. A method of testing the organisms by noting the rapidity with which they move in the presence of a cataphoretic current, gives findings by which he says the observer can identify the particular tissue affinity by their behavior in the current.

He also emphasizes the allergic nature of many of the systemic effects of local foci. Apparently most skin lesions which are not in themselves infective, and a great many other systemic conditions are allergic in nature, that is sensitization reactions to foreign chemicals not necessarily protein. Of these foreign chemicals, the toxins produced by bacterial growth in the tissues are a possible source.

With the exception of the omission of reference to allergy, the general con-

clusions of Elliott[85] regarding the present status of focal infection are worth quoting as reflecting general medical sentiment. "The present day conception of the relationship between oral infection and general health is based on incomplete clinical evidence. Crucial experimentation and adequate controls are lacking. Final statements must therefore, be deferred. Clinical experience seems to warrant the following statements:

1. Oral infection is a potent factor in the production and continuance of ill health and should always receive serious attention.

2. Other conditions being equal, manifest oral infection should be eradicated when possible in principle, as a matter of health insurance, and in addition with the hope, but not the assurance, that it may modify or control the disease from which the patient seeks relief.

3. Presumptive but not demonstrated oral infection should receive conservative consideration, the general condition of the patient, the seriousness of his complaint, the probability or improbability that his illness is due to or influenced by oral infection, and, finally, the possibility of other etiologic factors than oral infection being present. Certainly the wholesale extraction of devitalized but not manifestly infected teeth is to be condemned."

Dental Therapeutics

In the field of dental therapeutics some advances are reported. Schultz[86] reports the use of bacteriophage in staphylococcus diseases of the mouth as well as elsewhere. Ochseenhut and Komara[87] report the successful use of maggots in chronic osteomyelitis of the jaws, and give the technic for their use. Fosdick and Hanson[88] report on the use of thiocaine. It is a local anesthetic. It is four times as powerful an anesthetic as procaine, and only two and one-half times as toxic. Topically applied it is twice as effective as cocaine and but one-half as toxic. Deyton, Wilson and Zans;[89] and Main and Trapozzano[90] report on experiments with nupercaine. It is used clinically, and is over twice as powerful as procaine and probably but twice as toxic. It can be used successfully without epinephrin, and is valuable in cases where the latter drug is contraindicated. Dobbs[91] has also experimented with it, but finds that topically it is very superficial.

Waters[92] has studied procaine for toxic effects and finds that certain individuals develop an allergic reaction to it. This may take the form of a dermatitis where it touches the skin or of shock collapse and even death if it is rapidly injected. Toxicity as between the procaine and epinephrin can be distinguished by the pulse rate, an abnormal slowing indicating a procaine effect, an abnormal rapidity being an effect of epinephrin. As a means of eliminating the danger of acute procaine toxic effect, he advocates a premedication with a barbiturate.

Puterbaugh[93] gives alkalinization as a final refinement in the preparation of a procaine epinephrin solution.

Rossi[94] advocates another local anesthetic percaine for short sealing over sensitive dentin as a means of desensitizing temporarily without harm to the pulp.

Bichlmayer[86] advocates a new drug evipan which is injected intravenously to produce a short but profound sleep with no disagreeable after effects. He bases his praise on fifteen thousand administrations, animal and human.

Dujat and Franken[86] report on the advantages of avertin, a general anesthetic administered per rectum. Matsuda[87] reports on the use of pernocton for induction anesthesia. This drug is administered by intravenous injection. Becks[88] has a paper on the use of camillosan, the active principle of camomile, which he thinks has many valuable uses in Vincent's infection and other soft tissue lesions of the mouth.

Conclusion:

Researches in dental medicine are progressing on a wide front. The large number of qualified workers involved and the importance of the problems being attacked should be a source of great gratification to the profession and of expectation that some of the important unsolved problems in dentistry will shortly be solved and thus add valuable instruments to the armamentarium of the dentist.

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ABSTRACTS AND EXTRACTS OF CURRENT DENTAL LITERATURE FOR 1933 ON

(a)—Periodontal Histo-pathology

(Continued from July, 1933 issue, page 198)

1933

142—Adrion, Professor: **Structural changes in the paradentium under traumatic influence,** in: Deutsche Monat. f. Z., pp. 98-117, 1933. Abs. J. Am. Dent. A., xx(11): 2101-2102. 1933.

Histologic and roentgenographic studies show that excessive function and traumatic mechanical influences may cause fractures of cementum on the root surfaces. It is essential, therefore, that strong fibers of the periodontal membrane be firmly attached in the alveolar bone. These fractures occur most frequently at the dentino-cementum junction. They may also occur between the cementum and the dentin. The fractured parts on the root surface attempt to maintain their normal functional relations with the bone, but they may be further displaced under the functional influences. The healing process resembles that of healing of a bone fracture. A complete healing does not occur. Under favorable conditions, a regeneration of the wound on the root surface takes place and also a functional enclosure of the splinter by healing over, and a formation of a new periodontal space in the fissure. Healing may be hindered by inflammatory processes and epithelial proliferation.

143—Bader, Jean: **La gingivo sclerose dans les états pyorrhéiques.** Gingival sclerosis in the pyorrhetic states, in: Sem. Dent.: 1321-1330. 1933.

The physiology of sclerosis and the part it plays in the dental tissues, especially in pyorrhea is discussed. Sclerosis is beneficial when it occurs in states of pathological hyperactivity such as in pyorrhea since the sclerosis acts to reduce cellular activity. Delving into the cellular and tissue physiology of the gingivo-dental region the action of the surrounding elements upon the epithelial cells is described. Various endogenous and exogenous toxins may act on the intracellular elements to provoke epithelio-connective hyperplasia. Extra-tissue factors involved are the saliva whose potassium sulfocyanate plays an important role in rapid tartar production (Hulin), and the inflammatory suppuration. The cells also act on the surrounding elements especially in inflammatory states by liberating lytic ferments. Hopewell Smith has shown the role of lymphocytes in radicular odontolysis of the deciduous teeth. The interaction between the epithelial and connective tissues is one which plays a fundamental role in chronic diseases of the gingiva. Epithelial destruction and its effect upon the connective tissues constitutes the impassable obstacle to all curing of chronic paradentopathic diseases.

144—Bauer, W.: **Paradentitis agranulocytotica.** Agranulocytic paradentitis, in: R. Stomat., xxxi: 1-7. 1933.

Microscopic research into the case of a man suffering from syphilis who, when treated with neo-salvarsan, developed a severe agranulocytosis, and died within three months, showed a far-reaching destruction of the alveolus, resulting in cavity formation, small hemorrhages, especially under the roots, and minute cracks in the tips of the roots. The cementum in the affected portion of bone presented an extensive state of resorption, with the development of numerous wide recesses lying close to each other, and in which, here and there, further enlargements were occurring. The pulp had lost its usual structure, especially in the apical part where there

were still decalcified dentinal margins, but without the layer of cells on the side of the pulp, the contents of which appeared changed in the sense of a reticular atrophy.

145—Box, H. K., D. D. S., Ph. D. (Univ. Toronto): **The pericementum as influenced by physical functional modifications,** in: Internat. J. Orth., xix: 574-583. 1933.

A discussion and histological picture of the changes occurring in the pericementum following modification of its physical function. The physical functions of the pericementum may be summarized as a shock absorbing fibrous ligament in which nerves and vessels ramify and which sustains the surrounding soft tissues and transmits loading stimuli to the bone. To facilitate analysis occlusal function is divided into heavy function, traumatogenic function, and functionless.

Heavy function may result in stress within limits of cell reserve, or overstress. In the former there is hypertrophy of fiber bundles with decrease in supporting tissue whereas the latter shows atrophy. The rigidity imparted by the increased fiber bundles offsets the mobility due to wider membrane in stress.

Traumatogenic function is a malocclusive mechanism resulting in cementum fracture, necrosis, fibrosis and formation of granulation tissue. The fibrosis may be of an inflammatory or noninflammatory nature. The former shows a fibrous tissue with an absence of exudate and an atypical vascularity differing it from granulation tissue. Both impair nutrition and disturb repair. The increase in width of the membrane results in looseness.

Nonfunctioning teeth present a comparatively narrow membrane consisting of very loose tissue, decreased number of fibres and density, and pericemental edema. The author terms this condition 'adaptive fibropenia'. The narrow membrane results in an increased tightness which is offset by the presence of loose connective tissue.

146—Dewey, Kaethe W., M. D., and Zugsmith, Robert, D. D. S. (Univ. Pittsburgh): **Tissue reaction about artificial roots implanted in jaws of dogs,** in: J. Dent. Research xiii: 459-472. 1933. Abs. J. Dent. Research xiii(3): 207. June, 1933.

Results of artificial-root implantation have been reported almost exclusively with reference to clinical, technical and roentgenological aspects of the procedure. Very little has been written regarding tissue-reactions about artificial roots. It is conceded that highly glazed porcelain-roots are most suitable because almost entirely non-irritating. In the present experimental work with dogs there was very rapid downgrowth of gingival epithelium over the raw surface of the socket. Three weeks after extraction of incisors and their replacement with porcelain roots, the sockets presented epithelial covering over more than two-thirds of their length. However, the effectiveness of this gradually developed protective lining was considerably reduced or interfered with by unavoidable bacterial invasion of the lacerated tissue, and by associated reactive formation of granulation tissue, all three processes going on simultaneously. The infiltrations diminished toward the fundus; the bone was intact, and extensive new bone formation was in evidence. In one dog four roots of various materials implanted in a row, substituting four lower incisors, were left in place for six weeks. Histologically, epithelization was demonstrable almost down to the fundus. But in this case, also, the epithelium did not form a complete lining, having been influenced by associated impacted material. There was a zone of very vascular granulation tissue, surrounded by a thick layer of dense connective tissue that acted as an encapsulating membrane, preventing or restricting extension of infection and infiltration. The underlying bone was not invaded, and showed both resorptive and regenerative processes.

Bone seems to be endowed with unusual powers of resistance to infections, as observations in experimental surgical work, in particular about the mandible, and study of tissues under artificial dentures, have shown. The author's further studies of the condition of the bone, of the changes the granulation tissue undergoes, and of the behavior of the epithelium, 2.5 and 4 months after implantation of artificial roots in dogs, justify definite conclusions as to the advisability or justification of recommending or rejecting the practice of root implantation.

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147—Fischer, Guido: **The significance of epithelium in the periodontal space,** in: Vierteljahrsschr. f. Zahnheilk, 48: 413, 1932. Abst. J. Am. Dent. A., xx: 1352. 1933.

The periodontal membrane contains rests of Hertwig's epithelial sheath, the so-called rests of Malassez. Their netlike arrangement is found frequently in herbivora, but rarely in man. The presence of the epithelial sheath influences the formation of the root and to a greater extent at the time of the eruption of the tooth than later. The epithelial rests are found most commonly at the apical foramen, near the neck of the tooth and at the bifurcation of the multirooted teeth. As a rule, the epithelial rests arise only from the outer layer of the epithelial sheath. When they are derived from both the inner and outer layers, formation of enamel drops may result. The simple rests of Malassez take part in the epithelial lining of the dental cysts. At the apical foramen, the functional capacity of the periodontal membrane persists in spite of the disintegration of the pulp. Here, the periodontal membrane builds by means of proliferating connective tissue an abscess membrane which can penetrate the canal and deposit secondary cementum or bone.

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148—Gottlieb, B., M. D., and Orban, B., M. D. (Univ. of Vienna): **Active and passive continuous eruptions of teeth,** in: J. Dent. Research, xiii (3): 214. June, 1933.

"Active eruption" means actual movement of a tooth toward the occlusal line; "passive eruption" means its movement toward the apex. Both movements proceed continuously. Active eruption, with increasing age of the individual, gradually becomes slower; passive eruption does not. Active eruption influences passive eruption, but not vice versa. While a tooth moves rapidly toward the occlusal line (clinical eruption of teeth, teeth without antagonists), the bottom of the crevice also rapidly moves toward the apex. So long as teeth move toward the occlusal line without coming into contact with antagonists, their movement is accelerated. Active eruption proceeds in the front teeth, which are not in strong occlusion, but in the molar region is retarded by occlusal stress. This accounts for the different levels of these groups of teeth, and also explains how this difference becomes greater for Angle's Class II.

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149—Held, Dr. A.: **Etiologie et classification des paradentoses.** Etiology and classification of the paradentoses, in: L'Odontologie, lxxi: 470-479. 1933.

A discussion of the dystrophic character of paradentosis. A histo-pathological picture of the disease is presented. "Paradentosis, whose histo-pathological lesions are identical with those of fibrous osteitis experimentally reproduced, must be considered the first manifestation of a general affection of the skeleton . . . "

Delater has stated that alveolar atrophy is secondary to the congestive inflammatory process. Held reverses this formula and states that the osseous atrophy of dystrophic origin is in most cases the primary phenomenon of paradentosis. The atrophy is merely aggravated by the inflammation. He claims to have histological preparations that answer Delater's challenge, that he waits an atrophy unaccompanied by marked gingival inflammation.

The latter portion of the article deals with the nomenclature and classification of the paradentoses. It points out that Hulin's table presented at the International A. R. P. A. is not compatible with that body's aim that a classification should be of a simple clinical-anatomical nature capable of being universally adopted. Several of Hulin's terms lead to confusion and are impracticable.

150—Kronfeld, Rudolf, M. D. (Loyola Univ): **The progress of microscopic research in periodontal diseases,** in: J. Dent. Research, xiii: 167-168. 1933.

There are two types of periodontal disease. The most common type, found to some extent in about 90% of all mouths, consists of chronic inflammation of gingival tissue caused by local irritation. The teeth are firm for a long time and the deep periodontal structures are intact. Removal of calculus, good dentistry and proper use of the toothbrush is promptly effective.

A second, more serious type of periodontal disease involves deep lesions of alveolar bone and periodontal membrane, while superficial

soft tissues remain normal in the first stages. Diastemas and loose teeth are early symptoms. Later deep pockets form around the affected teeth. This type is not fully understood but there seems to be no doubt that a systemic disturbance is responsible.

151—Kronfeld, Rudolf, M. D.: **Recent findings in dental pathology and diagnosis,** in: J. Periodontology, iv(1): 7. Jan., 1933.

Observations and experiments by Dr. Kronfeld indicate that the normal, healthy gingival crevice is very shallow, leading to the belief that the ideal crevice is of zero depth. In a healthy mouth the crevice may remain shallow throughout life due to simultaneous detachment of the soft tissue from the tooth surface and involution of gingival tissues. A tooth loosened by occlusal stress stands a better chance of reattachment, and regeneration of alveolar bone if the crevice is shallow than if it is deep, since there is present a greater area of soft tissue attachment. The peridental membrane and alveolar bone change in structure under different conditions of function, increasing in size with increased use and decreasing under decreased functional stress. This was shown experimentally by tests on dogs.

152—Middleton, D. S., and Harvey, W. F.: **Congenital epulis,** in: Edinburgh Med. J., 40: 257. May, 1933. Abs. J. A. M. A., ci(13): 1037. Sept., 1933.

Tumor cells in congenital epulis do not exhibit a true epithelial mosaic arrangement and in their case show no organoid patterns. Blood vessels course throughout the tumor and form part of the tumor tissue, and this is not a feature of an epithelial structure, but is truly mesodermic. These and other facts led to the conclusion of a mesodermic origin. The view therefore that the tumor is a new growth from, or, a maldevelopment of the enamel organ or any part of the gingival epithelium allied to that organ is rejected. That it may be of dental origin is not in any way excluded by this judgment. It is concluded that this is a tumor of the xanthoma type. There is much indeed to be said for the view that it is some development anomaly of the dental papilla, and perhaps not a true neoplasm at all.

153—Miller, S. C., D. D. S.: **Reattachment and bone regeneration in advanced periodontoclasia; a reply,** in: D. Items of Int., lv: 184-185. 1933.

Much clinical evidence has been presented to vouch for the reattachment and regeneration of soft tissues and bone. Laboratory evidence is scarce except for that from postmortem work. "There is no doubt that pathologic studies of periodontal conditions have very little bearing upon proper treatment since all corrective measures must be directed toward the physiologic promotion of health processes rather than the suppressions of disease." We must uncover the etiological factors about which there can be no controversy.

154—Noyes, Frederick B., D. D. S.: **A study of osteoclasts,** in: Angle Orthodontist, iii(2): 83-94. April, 1933.

A comprehensive study of the action of osteoclasts on deciduous teeth found that the pulp persists until resorption has progressed quite far and disappears at last in the horns of the pulp chamber. Osteoclasts are formed from embryonal connective tissue which pervades the pulp. The fusion of the connective tissue cells forms the typical giant cell. A decalcification of dentine matrix in advance of the resorption was observed to a greater or less depth.

155—Noyes, Frederick B., D. D. S., Sc. D., (Univ. Illinois): **Absorption of roots of temporary teeth: item in evidence,** (abs.), in: J. Dent. Research, xiii(3): 203. June, 1933.

Material was obtained by sectioning crowns of temporary teeth picked off from the gum. Small bits of tissue adhering to the dentin furnished beautiful studies of osteoclasts. Study of this material indicated that (1) in this position osteoclasts are developed from cells of embryonal connective tissue. (2) At first they are small and mononuclear, and become large and polynuclear. (3) They are found wherever dentin is being resorbed. (4) As they become larger their cytoplasmic structure assumes characteristic complicated structure. (5) They are frequently united by cytoplasmic bridges, and even form continuous sheets of nucleated cytoplasm extending often over five or six howships lacunae. (6)

Ground sections indicate that dentin is decalcified in advance of its removal. (Published in Angle Orthodontist, 1933, iii, p. 83; See above Abs. (a) 154.)

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156—Orban, B., M. D. and Weinmann, J., M. D., (Univ. of Vienna): **Signs of traumatic occlusion in average human jaws,** (abs.), in: J. Dent. Research, xiii(3): 216. June, 1933.

The authors studied a large amount of material from human jaws, obtained at autopsy and serially sectioned. In almost every jaw where teeth had been extracted, but not replaced by bridges, there were signs of trauma similar to those found by Gottlieb and Orban in experiments on traumatic occlusion in dogs. Necrosis of periodontal membrane was produced in places where heavy pressure had been applied. Surrounding bone was resorbed. In most cases there was no change on the surface of cementum. Hemorrhages and thrombosis of blood vessels were noted. In later stages of trauma, and in the region thereof, cartilage was formed in a manner analogous to its production after bone fracture in pseudoarthrosis. There was no observed connection between gum disturbances and changes in the periodontal membrane.

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157—Retterer, E.: **De l'éclosion et de l'evolution de la pyorrhée alvéolo-dentaire.** Concerning the commencement and the evolution of alveolo-dental pyorrhea, in: L'Odontologie, lxxi: 583-604. 1933.

Contrary to the classical conception, that the basal cells of the epithelium do not form epithelial cells to replace the superficial desquamation, it is stated that they produce cellular masses which are transformed into connective tissue elements. The entire tooth is of epithelial origin arising from an epithelial bud, the bottom part of which is transformed into the connective tissue of the dental papilla and the odontoblasts. Likewise, the circumradicular membrane (peridental membrane) is of epithelial origin and is continuous with the gingiva at the neck of the tooth.

The gingivo-dental region is thus composed of a mixed epithelio-connective tissue. In the normal state a physiological equilibrium exists between the two tissue elements. The vitality of the connective tissue elements depends on the integrity of the epithelial elements which replenish and rebuild the connective tissue. The epithelial masses in the circumradicular membrane are epithelial elements not yet transformed into connective tissue. Any injury to the epithelium will, therefore, have its repurcussions in the deeper tissues. A road is paved for the action of microbes and the inception of pyorrhea. Both local and general factors play a role in enfeebling the resistance of the buccal epithelium. The inception of pyorrhea lies in the atrophic modifications of the gingival epithelium to microbic invasion.

The histo-pathological changes in the evolution of pyorrhea on the basis of the above viewpoint is explained.

—*G. H.*

158—Schier, D. D. S.: **Reattachment and bone regeneration in advanced periodontoclasia,** in: D. Items of Int., lv: 7-15. 1933.

Reattachment of the peridental membrane and regeneration of bone (the alveolar crests), do not occur. Regeneration is a process involving limited losses between parts of the whole and their replacement. At the highest expectancy we might regenerate a loss to a limited degree and then only between parts concave in general form. We cannot lengthen a lost finger or increase the height of the mandible or even an alveolar crest. The decalcification and osteohaleresis is gradual and leaves a matrix which is radiolucent. With the intervention of treatment there is a redeposition of the calcific components into the remnants of the matrix before complete destruction and radiopacity is regained. There is no building of new on old bone. There is a repair but no regeneration.

Neither does actual reattachment occur. Removal of the etiological factors results in subsiding of the inflammation and the peridental fibers resume their elasticity and once more become in apposition with cementum but with no reattachment. The replacement of the peridental attachment in excessive cementum formation following infection, trauma and attrition has not been observed.

159—Schonbaurer, Franz, M. D. (Univ. Vienna): **Role of epithelium in eliminating foreign bodies in the jaw,** in: J. Dent. Research, xiii(3): 217. June, 1933.

In a 55-year-old patient a sequestrum was removed after osteomyelitis of the upper jaw. Epithelium on the surface of the sequestrum had the characteristic appearance of that on teeth. On necrotic portions of the sequestrum, the bone corpuscles were lost, the epithelium having separated from the surface. Where bone corpuscle was present, however, epithelium was firmly attached to the surface. Similar findings were noted in jaws of rats and dogs. These observations corroborate the theory of Gottlieb on the connection between downward growth of epithelial attachment and vitality of cementum.

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160—Stewart-Ross, W.: **Permeability of cementum and its reaction to irritation,** in: Brit. Dent. J., Aug., 1933. Abs. J. Am. Dent. A., xx: 1920. Oct., 1933.

The possibility of a fluid path across cementum was investigated by a series of diffusion experiments with dyes. The dye was in one instance applied externally and in another internally. Teeth of monkeys and dogs were used. The dye diffuses differently in the cervical and apical areas. Where lacunae are present, the dye travels through the cementum whether placed internally or externally. It does not permeate the cervical cementum with regularity. At times, it failed to penetrate at all; at others, it stopped at the dentinal border; again, it entered the dentin. In the apical region, the permeability is affected by age, the process failing when the animal reaches maturity. Secondary calcification as a result of irritation is given as the cause. Hypercementosis is accredited to the death of the lacunar cells. The writer claims that cervical cementum becomes hypercalcified at an earlier period than does the apical cementum; which he ascribes to a lessened nutrition as well as greater irritation. Experimental application of irritants resulted in added defensive calcification of the cementum. If the irritation is strong enough, the peridental membrane is affected, absorption taking place with ankylosis.

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161—Synge, J. L., Sc. D. (Toronto): **The theory of an incompressible periodontal membrane,** in: Internat. J. Orth., xix: 567-573. 1933.

Schwarz's "elastic cord theory" postulates that the fibres in the peridental membrane act as elastic fibres. If such is the case, when application of occlusal force makes the root approach the bone, at some place the fibres must shorten. Since their volume remains unaltered they must bulge. If the spaces between the fibres were filled with air this bulging would be unimportant. Actually, however the fibres are very close together and bulging would distort the neighboring fibres. Schwarz' theory therefore must be considered untenable.

The peridental membrane is an incompressible one. It experiences distortion but no change in size. In order to facilitate mathematical calculations it is assumed that the membrane is homogeneous, of constant thickness and that the root is of the shape of a right circular cone. The probable inaccuracies of these assumptions do not affect the validity of the conclusions drawn.

The theory places the center of rotation of a transverse load on the tooth as approximately three-quarters of the root length from the apex. The essential stimuli involved in bone absorption are more intimately connected with the stress and strain in the membrane than with the displacement of the root.

Transverse occlusal force results in the existence of high and low pressure regions on the root surface. A transverse force of three ounces is sufficient to double the pressure at points of highest pressure. The theory predicts considerable variations in pressure on the membrane as the result of occlusal forces. This theory explains in mathematical terms the dependence of the tightness of a tooth on the thinness of the peridental membrane.

162—Willman, W., D. D. S.: **Periodontal disease,** in: J. Am. Dent. A., xx: 1617-1630. 1933.

A resumé of the epithelial attachment around the tooth as propounded by Gottlieb and the histo-pathology of pyorrhea. Marginal pyorrhea constitutes about 90 percent of all clinical cases. It is characterized by inflammation, pocket formation and final loosening and loss of the teeth. The first step is the introduction of an irritating factor such as calculus into the gingival crevice. Gingival inflammation results and there is

an increase in tissue fluids to the part. The increased pressure causes resorption of the alveolar crest and the uppermost peridental fibers are released and cease to function. The pocket deepens and the epithelial attachment grows downward. Continued tissue irritation causes ulceration of the tissue side of the pocket and suppuration. Elimination of the pocket is the chief aim of the treatment. Prognosis is good if the disease has not gone too far.

In the other 10 percent of cases constitutional factors play a baffling role. These cases are those of diffuse alveolar atrophy and the cardinal features are those of marginal pyorrhea in reverse order, i. e., loosening of teeth followed by pocket formation, then suppuration. The disease is not often seen in the primary stage with loose teeth and no abnormality of the gingival crevice. It is possibly due to a failure of the cementoblasts to deposit layers of cementum to anchor new peridental fibers as they are developed to replace old ones. The pockets develop as the fibers are torn away thus allowing the epithelial attachment to pass down towards the root. The etiology of this type is probably metabolic. No specific treatment other than that for marginal pyorrhea is known. Prognosis is not very good.

163—Ziskin, D. E., Blackberg, S. N., Stout, A. P.: **The gingivae during pregnancy; an experimental study and histo-pathological interpretation,** in: Surgery, Gynec. Obstet., lvii: 719-726. 1933.

There are four forms of pregnancy gingivitis. These may or may not be progressive stages of the same underlying factors. The first form is characterized by bleeding; the second by a raspberry red inflammation of the marginal gingivae; the third by a generalized hypertrophy of the tissue, and the fourth by an over grown gum papilla or "pregnancy tumor."

The clinical studies were carried out upon 416 pregnant women. Biopsies were performed where possible and histological studies made. Experimental work was carried out upon rats and monkeys.

The authors' conclusions are:

1. While irritants are usually found associated with gingivitis in pregnant women, this affection may develop in the absence of such irritants. Hence, it would seem that irritation is a complicating factor rather than a causative one.

2. Since traumatic hemorrhage from the gums begins so often after the onset of gestation, it is probably a complication of pregnancy.

3. Because hyperplasia is the most notable change in the epithelium, because it increases with advance in pregnancy, and because it is also commonly present in certain organs of reproduction during this state, it seems likely that pregnancy plays an etiological role in the production of epithelial hyperplasia.

4. The inflammatory changes in the submucosa cannot be linked with the month of pregnancy. Consequently, they are probably secondary in character.

5. Gross changes, resembling "pregnancy gingivitis," produced in the monkey by injection of the pregnancy urine extract, were found miscroscopically to be hyperplasia of the epithelium, pointing to the probability that the hormones were the causative agents.

6. One monkey, number 123, showed hyperplasia of the epithelium, without inflammatory changes in the submucosa. This leads us to believe that epithelial hyperplasia is the primary change.

7. The significant change in the gums in "pregnancy gingivitis" is hyperplasia of the epithelium.

(b) Periodontal Bacteriology

(Continued from iv(2): 200. July, 1933)

39—Aisenberg, M. S., D. D. S. (Univ. of Maryland): **Morphologic studies of fusiform microörganisms,** in: D. Cosmos, lxxv: 546-550. 1933. Abs. J. Dent. Research, xiii(3): 204. June, 1933.

By means of the stem, the life history is traced, with the following conclusions: (1) The stem is segmented. (2) Branched stems were not observed, hence Beust is presumably correct in placing this organism under the genus Leptothrix. (3) The nature of the life cycle indicates that fusiform organisms in Vincent infection have not as yet been cultivated. (4) We agree with Beust that "the student of the fusiform bacillus would probably do well to dismiss, for the present, the thought that the fusiform organisms are bacteria. Rather, a generation of spores should be imagined which were developed from a parent." —*Copy.*

40—Bartels, Henry A., B. S., D. D. S.: **The streptococci; recent observations of interest to the dentist,** in: J. Am. Dent. A., xx(10): 1818-23. Oct., 1933.

A short review of the voluminous material written on the subject. The types, number, location, importance, and mode of infection of streptococci in the oral cavity are described.

41—Belding, L. J. and Belding, P. H.: **The pathogenicity of the fusiform bacillus and the spirillum of Plaut-Vincent,** in: J. A. M. A., ci(4): 300. July, 1933.

Comment on the work of Lichtenberg and his associates on this subject in the J. A. M. A., March 11, 1933: "From the title one would expect a discussion of spirochetes, but they are ignored except as vaguely confused with the terms fusospirochetes and fusiform bacilli and are proved non-pathogenic by that dangerous method of assumption.

"In fusospirochetal disease the spirochete is considered for the following reasons to be most important: (1) Fusospirochetal disease of the mouth is limited to the dentulous age: no teeth, no gingivae, no anaerobic nidi, no spirochetes, no spirochetal disease. (2) The frequency of spirochetes in the oral cavity strikingly parallels the absence or extent of pathological changes. (3) Fusospirochetal disease is frequent in epidemics and the one characteristic change in the oral flora of the victims is the increasing number of the spirochetes. (4) Pathological examination of diseased structures shows spirochetes leading the bacterial invasion into the normal tissues. (5) Specific treatment causes the rapid disappearance of spirochetes from the lesions and coincidentally, clinical improvement. (6) The fusospirochetal complex when injected into animals uniformly produces lesions of a constant character, similar to those observed in man. (7) Last and most important, the acute penetrating and chronic progressive forms of this disease cannot be controlled except by the topical, parenteral or combined administration of the specifics."

Lichtenberg and associates have ignored the spirochetal issue basing their deductions on studies of the "fusiform bacillus". Years of experience in treatment of spirochetoses have convinced Belding and Belding that most acute cases heal spontaneously in spite of the "usual treatment", but that the acute penetrating and chronic forms cannot be controlled except by the use of specifics. Until it is possible to prognosticate which cases will develop into severe infections it is advisable to continue routine use of the specifics. (See Abs. (b) 45.)

The above criticism is followed (p. 300) by a counter-reply from Dr. H. H. Lichtenberg.

42—Goldman, Leon and Kully, Herman E.: **Fatal fusospirochetal angina: report of seven cases,** in: J. A. M. A., ci(5): 358. July, 1933.

Report concerning seven fatal cases of fusospirochetal angina in the Cincinnati General Hospital from 1929 to 1932 merits being read in full. Many interesting general observations on the organisms are presented. Spirochetes and fusiform bacilli are "opportunists" becoming pathogenic only when the integrity of the tissues with which they are in contact is altered. Associated factors have not been sufficiently stressed in fusospirochetal angina. In every case attempt should be made to find systemic or local cause for increased virulence of the organism. Any type of ulceration in so-called dirty mouths is potentially liable to infection with fusospirochetal organisms, extensive ulcers being produced, whereupon the other organisms present, especially staphylococci and streptococci, enter and these play important roles in systemic invasion and involvement. Exact nature of lesion produced depends largely on resistance of patient and other underlying factors. Especially in primary blood dyscrasias with weakened body defenses will invasion assume huge proportions. In pulmonary gangrene tissues are unable to set up adequate defense and process spreads rapidly destroying tissue as it goes. When fusospirochetal infection is extensive it will completely mask any local picture such as chronic granulomas or tumors of the mouth. Complication with diphtheria is believed possible in small children. Fatalities are not so rare as reports of cases may indicate and findings controvert the opinion, that fusospirochetal infection is a rather benign affair.

"No diagnosis can ever be made without a positive smear and in active untreated cases the organisms ought to be very numerous, a quantitative difference from the 'normal'; furthermore streptococci are not found in

an acutely involved throat; the condition is either a fusospirochetal angina or diphtheria. It is necessary to get the material from deep in the tissue. The Wasserman test for fusospirochetal angina *per se* is not positive."

Simple mild cases can be made inactive by usual oral hygiene with mild local applications; when the case does not respond promptly and the lesions begin to spread with systemic involvements the case should early be considered serious. Fusospirochetal angina can be a very serious disease, not only because of its direct ability to cause death of the patient, but because in its so-called chronic form it can give rise to pulmonary abscesses, pulmonary gangrene and metastatic lesions almost anywhere in the body. Areas of predilection for the organisms are about the lower incisors, the last molars, and finally in the tonsils. The prophylaxis then is in the hands of the dentist as well as the laryngologist on the lookout for tonsils chronically infected with the organisms. Neglected cases may come to extensive ulceration and then to death in spite of "adequate" therapy.

—*C. R.*

43—Knighton, Holmes T., D. D. S. and Bibby, Basil G., B. D. S. (Univ. Rochester): **Studies of fusiform bacteria.** (Abs.), in: J. Dent. Research, xiii(3): 204. June, 1933.

By using blood-agar plates and hydrogen anaerobiosis, isolation of fusobacteria (fusiform bacilli) from the mouth was relatively simple. Addition of gentian violet to blood or potato-extract media (Slanetz) rendered them somewhat selective for fusobacteria. Potato-extract medium and low-pressure-CO_2 anaerobiosis, on the other hand, did not offer any advantages. The organisms have been tentatively separated into three morphological groups, which can be further divided by carbohydrate fermentation and indol tests. Difficulty was encountered in agglutination tests because spontaneous agglutination occurred with some strains, and natural agglutinins for the short type were found in sera of most rabbits examined.

—*Copy.*

44—Lesbre, P.: **Pathogenic power of certain bucco-dental saprophytes,** in: Rev. de Path. Comparee, xxxiii: 1048-1052. 1933.

Magazine not available.

45—Lichtenberg, Henry H. and Werner, Marie and Lueck, Esther Wolckmann: **The pathogenicity of the fusiform bacillus and spirillum of Plaut-Vincent, a clinical and experimental study,** in: J. A. M. A., c(10): 707. March, 1933.

"Proof" is wanting concerning the generally accepted opinion that Plaut-Vincent's organisms have a pathogenic relationship to various clinical entities. Report records clinical and experimental observations bearing on the subject.

Summary: "1. Attempts at producing lesions in any way similar to those commonly attributed to the action of the Plaut-Vincent's organisms, by injecting pure cultures of fusiform bacilli into areas of traumatized tissue of guinea pigs were unsuccessful.

"2. The fusospirochetal organisms were found in 45.4% of tonsils removed from 108 children.

"3. In same children these organisms were found in 91% of the membranes that formed over the tonsillar beds after tonsillectomy and usually in greater numbers than in the tonsils themselves.

"4. The organisms were found constantly in smears of the membranes that formed over traumatic ulcers produced in the mouths of guinea pigs.

"5. Neither the injection nor the local application of sulpharsphenamine hindered the appearance of these organisms in the lesions in the mouths of guinea pigs, or hastened the healing of the lesions.

"6. Sixteen consecutive cases of severe ulcerative stomatitis in children all healed in some 4-7 days without treatment. This compares favorably with reports of cases treated with various drugs and other forms of treatment.

"7. The value of diagnostic smears for Vincent's organisms as a means of establishing a pathogenic relationship of these organisms to a suspected lesion is questioned."

It is at least possible that Plaut-Vincent's organisms are saprophytes and opportunists growing on lesions caused by other agents and only rarely if ever becoming pathogenic. In the present status of knowledge it is justifiable to question a fusospirochetal pathogenicity.

—*C. R.*

46—Moramarco, G.: **The protozoan parasites of the buccal cavity,** in: Annali di Clinica: Abs. Revue Belge Stomat. 1933.

Report of recent studies of famous authors on the parasitology of two protozoan inhabitants of the mouth, viz: entamoeba gingivalis and trichomanas buccalis; also original research. Conclusion reached was negative so far as trichomanas buccalis was concerned but that entamoeba gingivalis can cause inflammation of the gingival tissues.

47—Tschertkoff, L., Kleitman, I. and Epstein, E.: **Die Alveolarpyorrhoe und das immuno-biologische Verhalten des Organismus.** Pyorrhea alveolaris and the immuno-biological repression of the organism, in: Berichte D. Staatl. Stomat. Inst. Odessa, i: 1. 1932. Abs. Deutsche Z. Wchnschr., xxxvi: 461. 1933.

There is a foundation for the assumption that paradentosis leads to an intoxication of the whole organism. Apparently the question is one of a changed reaction of the organism to those streptococci taken from the gingival pockets of paradental diseases. The authors injected pyorrhea streptococci subcutaneously to see if there is in paradentosis, as in other septic diseases, any special skin reaction evident which would differentiate the individual from a normal one. The material was a culture taken from a gingival pocket.

The skin reaction was at its greatest after 24 hours. 71% of the pyorrhoetic patients react positively, while only 36% of the normal so react. The high percentage in paradentosis is due to the over sensitivity of the organism to that kind of streptococcus.

Thus the subcutaneous injection of bacteria from pyorrhoetic pockets is not a specific diagnostic for paradentosis, just as the metabolic product of these cocci (hypothetic toxin) is not suitable for a subcutaneous proof.

48—Wallace, Helena, Wallace, E. W. and Robertson, O. H.: **Production of experimental Plaut-Vincent's angina in the dog,** in: J. Clin. Investigation. Sept., 1933. Abs. J. Am. Dent. A., xx: 2100. Nov., 1933.

In 1931, it was noticed that after the daily injection of scillaren B, dogs developed a mouth condition similar to Plaut-Vincent's disease. Smears showed the typical fusiform bacilli and spirochetes. This observation led to the experiments described in this paper. Eleven dogs were used, all of which developed a typical angina, pathologically and bacteriologically. Attempts were made to transmit the disease, the diseased animals being allowed to run in the same room with the disease-free animals and to eat from the same pan, but the healthy ones did not contract the disease. Swabs infected from the pockets of affected teeth were inserted under the gum margins of the healthy dogs without effect. Cultures were taken from the infected mouths and grown anaerobically. The fusiform cultures were readily isolated. Spirochetes refused cultivation. No explanation is offered for the effects of scillaren B injection except its possible disturbance of metabolism.

(c) Other Laboratory Researches

(Continued from iv(2): 202. July, 1933)

54—Farmer, Dr. K.: **Verschafft die bisherige Methode in der Paradentoseforschung tatsächlich Erkenntnisse?** Do present methods of research in paradentosis provide factual knowledge?, in: Paradentium, v: 14-17. 1933.

All present theories as to the cause of paradentosis are discarded and the therapeutic treatments based thereon, as these are based on false methods of theoretical knowledge. A sensible investigation must develop itself on the way, and come nearer the view of Goethe: "Observance of the original phenomenon in its entirety."

55—Heinrich, Dr. Erich: **Report on sociologic studies and types of constitution in 2000 cases,** in: Z. Rundsch., xlii: 10; Paradentium, v(2): 31-40. 1933.

The 2,013 patients were examined as to whether the gingivae were diseased or sound. They were graded as healthy when there were no macroscopic evidences of inflammation; as diseased were noted catarrhal and dystrophic types (or combinations). All definitely diagnosed cases of paradentosis. These were very few.

These cases have all been tabulated and graphed, according to age, social position, occupation, physical types, etc.

What value have these observations? A limited one certainly, since the number of patients observed is much too small in relation to the number with paradentosis to draw definite conclusions. Out of many small and doubtless interesting observations, the most prominent is perhaps that 14.2% of all patients had paradentosis and more men were affected than women. —*H. A. R.*

56—Heintz, Dr. V.: **Paradentose, Karies und Rasse.** Paradentosis, caries and race, in: Z. Rundsch., xlii: 725-736. 1933.

An investigation of the propensity to paradentosis of five so called separate European races. The conclusion is that all European races have, with slight variations, the same tendency to paradentosis, with the exception of the east Baltic group. The bases for this tendency are somewhat varied. Hybrids have a greater inclination to paradentosis than pure blooded races. Physical-psychic contrasts increases the susceptibility. Poorer races and those living under more unfavorable circumstances are somewhat more susceptible to paradentosis. Also, general conditions are, at least, as important as inherited tendencies.

57—Hodge, Harold C.: **Gingival tissue lipids,** in: J. Biol. Chem., ci(1): 55-61. Feb., 1933.

In comparing the phospholipid content of the skin, intestinal mucosa and gingival tissue, the latter was found to be more closely allied to the mucosa than to the skin, lying however between these two in value. "The values for total lipids show the average value in the gum to be of the order of Jono's reported value for skin and sensibly greater than the values reported for mucosa, lying between the skin and mucosa in per cent of content. The cholesterol content of the gum lies in the limits reported for skin cholesterol but is only slightly larger than the values quoted for mucosa. The lipid content of gum lies between that of skin and that of intestinal mucosa, the phospholipids being nearer to those of mucosa, and the total lipids and cholesterol are more nearly like those reported for the skin."

There was no correlation found between the cause of death, histological structure, or health of the mouth and the lipid content. —*M. S. W.*

58—Nichols, B. S., M. S., Hatton, M. D. and Doherty, D. D. S.: **A study of the behavior of mucin smears treated by acids, alkalis, soaps and substances containing vitamin C,** in: J. Am. Dent. A., xx: 707-712. 1933.

The studies were carried out on a 6.5 percent preparation of gastric mucin in .25 percent sodium carbonate (pH similar to saliva). Lime water, citric acid (.5%), tartaric acid (.5%), lactic acid (6%), acetic acid (.5%), and galactonic lactone caused complete removal of mucin smears. Sodium hydroxide solution, milk of magnesia (50%) and castile soap solution had little or no effect on the smears. Film removal is not related to pH.

If, as Gies claims, mucin is the most important factor to be dealt with in cleaning teeth, those substances which make mucin less adherent are valuable aids in cleaning teeth whereas those that increase the stickiness of mucin are detrimental. The same substances that remove mucin are salivary stimulants.

Fruit juices high in vitamin C content are particularly effective in removing mucin films. It may be, therefore, that the beneficial effect of orange juice in dental caries, gingivitis and pyorrhea may be due to its removal of impacted débris with mucin. Furthermore, it is hard to conceive that dental decay which is confined to so specific areas on tooth is caused by the lack of an agent whose action is not sharply focused on the susceptible areas.

It is the impression that the character of the arrangement of the mineral crystals in the outer tooth surface is an important part in dental caries.

59—Rudolf, Jozat: **Changes in the periodontium due to reduction in pressure,** in: Deutsch. Z. Wochensch.: 155-157. 1933. Abs. J. Am. Dent. A., xxi: 730. 1934.

The author measured the width of the periodontal space between the cementum and the alveolar bone, on cadavers. He established that there is a widening of the periodontium with increased age. Teeth functioning well have a greater space than those of lesser function. Teeth serving as prosthetic abutments have the largest periodontal width. In an even flat cutting bite of the anterior teeth, the periodontal width is greater than in a deep bite.

(d) Clinical Etiology

(Continued from iv(2): 209. July, 1933)

238—Adloff, Prof. Dr. P.: **Einige kritische Bemerkungen über die Aetiologie der Karies und der Alveolar-Pyorrhea.** Some critical observations on the etiology of caries and pyorrhea alveolaris, in: Vierteljahrsschrift f. Z., xlix: 17-44. 1933.

The etiology only of these two diseases is discussed. Both are infectious, although caries in the beginning does not give the picture of an infection. The question then arises whether the decalcification in caries or the inflammation in pyorrhea alveolaris are the true causes or whether other factors are concerned. Both are independent of external circumstances to a high degree. Infection cannot be considered the true cause as many people do not get caries or pyorrhea even under the most unfavorable circumstances. As in all other diseases, a predisposition is present. The effects may be systemic as well as local, and they can occur in combination with other sicknesses. Injurious inflammatory influences on marginal borders never lead to pyorrhea if predisposing factors have not existed, but lead instead to a marginal periodontitis. Also the sites of retention play only a local role in caries, and do not explain the tremendous spread of the disease. In both cases, however, these sites determine the clinical picture, affect the beginning of the infection, and influence its course.

—*J. G. O.*

239—Adrion, Prof. Dr. W. (Berlin): **Über die Paradentose.** Concerning paradentosis, in: Deutsche Med. Wochenschr., lix: 879-880. 1933.

A short, general review of the causes, symptoms and treatment of paradentosis. The subject is treated in a cursory manner as it is intended for general practitioners of medicine and is only to give them an idea of the subject.

—*J. G. O.*

240—Agnew, R. Gordon, D. D. S.: **The application of periodontal physiology to orthodontic practice,** in: Internat'l J. Orth., xix(6): 584-603. June, 1933.

Periodontal lesions in rats were produced on diets low in calcium and Vitamin D. The degree of fineness of the food was not of primary importance. Some of the lesions went so far as to produce exfoliation of the teeth.

Studies were made also of human material showing all stages of crevice formation at various ages. A separation of the gingival soft tissues from the tooth surface was found occurring beyond the base of the crevice. These separations may be few or many and may be separated from the base by normal epithelium. They show no clinical manifestations. They are "subcrevicular detachments." A deepening of a pyorrhetic pocket occurs when through any injury or trauma the pocket is forced into a "subcrevicular detachment."

241—Askanazy, Prof. (Geneva): **L'atrophie progressive des os, l'ostite fibreuse et la paradentose.** Progressive atrophy of bone, fibrous osteitis and paradentosis, in: L'Odontologie, lxxi: 801-822. 1933.

The jaws and the femur are the only bones attacked by fibrous osteitis at the inception of the disease. The endogenous cause of fibrous osteitis is adenoma of the parathyroid and hyperparathyroidism. Parallel to the destruction of bone is a diminishing of phosphorous in the blood with an augmentation in calcium. The author mentions a condition somewhat similar to fibrous osteitis but in which no osseous tissue is regenerated. He terms it progressive atrophy of the bone.

Katase has shown that progressive atrophy of the bone may be induced by acidosis and that when the acidosis persists fibrous osteitis occurs. Ingestion of ammonium chloride or sugar and certain infectious maladies are other exogenous factors involved.

Paradentosis, like many chronic maladies, is poly-etiological. It is not provoked by a specific pathogenic agent. Of the many etiological factors studied acidosis has been most neglected. According to Citron hypercalcemia is the rule in paradentosis. Yamkani's work indicates that gingival inflammation is secondary to primitive alveolar atrophy. Becks and Weber have shown that avitaminosis D is conducive to fibrous osteitis.

Ritishauser and the author examined 62 cases of paradentosis in individuals dead from various diseases. They found osteoclasic atrophy in deep parts of the jaw where inflammation was not present. In several cases young osseous neoformations were present

even though osteoclasts were not at hand. They conclude that non-inflammatory osseous lesions may precede inflammation in paradentosis. Moreover, of the cases studied most died from chronic infectious diseases in which acidosis occurs. Accompanying the paradentosis were signs of osseous atrophy in other bones.

—*G. H.*

242—Belding, L. J., M. D. and Belding, P. H., D. D. S.: **An evaluation of the various theories on the etiology of periodontoclasia,** in: D. Cosmos, lxxv (2): 140-145. Feb., 1933.

"The underlying factor in the etiology of all forms of periodontoclasia is low resistance to bacterial invasion on the part of the cells of the supporting tissues of the teeth . . . All other factors which enter into its etiology such as heredity, systemic disease, diet, traumatic occlusion, etc., are important only as they depress all resistance and make bacterial invasion possible."

The theory of atrophy of disuse fails to explain why the banana eating Central American monkeys with dentulous processes similar to man, have excellent teeth. From a physiological and anatomical viewpoint this theory is untenable since mechanical stimulation, while it destroys the gingival crevice in which anaerobic bacteria multiply, is essentially not a method utilized by nature for the maintenance of normal gingival tone. The atrophy of disuse theory furthermore fails to explain why periodontoclasia so completely ignores infants and young children whose teeth and gums receive little or no exercise.

The greater exposure of older people to the spirochetes may help to explain why children are so free from periodontoclasia.

As to the diet theory, the worst possible diets will not produce periodontoclasia if a high condition of oral hygiene is maintained.

—*G. H.*

243—Best, J. V. Hall: **Systemic diseases in relation to periodontal disease,** in: D. J. Australia. Feb., 1932: Abs. D. Record, liii (2): 100. 1933.

It is generally recognized that the influence of periodontal lesions is not as serious as periapical infections in the production of metastatic disease. However, such symptoms of auto-intoxication as gastro-intestinal disturbance, malaise, loss of weight, are commonly associated with periodontal disease and must influence the plan of procedure. Conversely, the production of parietal lesions by systemic diseases must be carefully investigated in any diagnosis. Such conditions as diabetes, anemia, nephritis, syphilis and metallic poisoning represent the outstanding examples of diseases which produce periodontal disturbances.

The influence of the diet must also be included in the search for causative factors. Diet operates in two ways—first, through the trituration of rough foods causing stimulation of the periodontal tissues and attrition of the occlusal surfaces of the teeth; secondly, a well-balanced diet rich in vitamins and minerals is necessary for the maintenance of health. Disturbed metabolism from dietary deficiencies is an important factor in the production of oral disease. Typical examples are scurvy from lack of water-soluble vitamin C, rickets from lack of vitamin D.

A comprehensive review of the causes of periodontal disease would require consideration of habits (mouth breathing), infection (bacterial cytolysis), and all the mechanical factors such as traumatic occlusion, deposits, irritation from overhanging margins, incorrect toothbrush use, etc. Authorities may not agree as to the extent to which occlusal trauma is responsible for periodontal disease, but there seems general agreement that this is one of the most important factors to be controlled by treatment. Sorrin and Miller report the treatment of 3,000 cases, of which they estimate traumatic occlusion to be the dominant factor in 85 per cent. Traumatic occlusion can be corrected by orthodontic treatment, by grinding or by reconstructing the bite with extensive fixed bridgework. The object of either method is to secure balanced occlusion, i. e. a harmonious relation of the inclined planes of the cusps of the occluded teeth in central, lateral and protrusive relation. Among the easily detected pathological results of traumatic occlusion are cervical recessions . . . . hypotrophic gingivitis, Stillman's clefts, pulpitis, erosions and periodontal abscesses, etc. These conditions, evident on examination are often not appreciated as expressions of traumatic occlusion.

—*Copy.*

244—Bilekjin, Prof. L. A.: **Sur l'étiologie de la paradentose.** The etiology of paradentosis, in: Z. f. Stomat., xxiv: 1933. Abs. Rev. d. Stomat. 1933.

135 cases of paradentosis were examined from different aspects. In one-third of these a disposition to the malady was found in the family history. Most of the patients were suffering from general diseases—tuberculosis, rheumatism, gout, arthritis, chronic grippe, neurasthenia, etc., etc.

The examination showed that paradentosis reached the same proportion among the working class as among the intellectuals, but women seemed to be more susceptible than men. The most susceptible age 30 to 40 years. The examination of the urine showed in some a quantity of calcified stones and sometimes albumen. Bacteriological examination of the pockets showed the usual bacterial flora. Morphological blood examination showed too few erythrocytes, and the hemoglobin index was hypochrome in all cases. Chemical examination of the blood showed a tendency to hypercalcemia (61%) and almost none showed hypocalcemia. The results of the analysis did not show an antagonism between the proportion of calcium and phosphorus in the blood. The quantity of bilirubin, uric acid and sugar were normal in most cases.

Results in detail are compared with those of other authors.

—*Transl. Abrev. G. H.*

245—Blayney, James R., D. D. S.: **Hypertrophic gingivitis,** in: Angle Orth., iii(3): 157-162. July, 1933.

The enlarged condition of the gums so frequently seen are not true hypertrophies but are inflammatory in nature. The term should be applied only to those cases where there is a marked overgrowth of fibrous tissue limited not only to the gingivae but including the soft tissue covering the alveolar processes, and the hard palate in that area.

Areas of hypertrophy are avascular whereas gingival enlargements (polypi), are extremely vascular. The latter are painful whereas the former are not. The exact etiologic nature of true hypertrophy is not known but it is believed that local irritations play a secondary role, whereas they play a primary role in the causation of gingival polypi.

The enlargements of the septal gingivae frequently seen in the anterior part of the mouth are due to the disturbance of occlusion resulting from mouth breathing and not by the passage of air causing friction to the gingivae, as is believed by Hirschfeld.

246—Broderick, F. W.: **Teeth in tuberculosis,** in: Brit. D. J., Aug., 1933. Abs. J. Am. Dent. A., xx: 1920. Oct., 1933.

Caries and pyorrhea are not diseases *per se* but symptoms of a constitutional upset, the main feature of which is disturbance of the acid-base equilibrium of the blood. If the disturbance is toward acidosis, caries results; if toward alkalosis, pyorrhea. An effect of such an acid-base disturbance will be a change in the saliva. Experimentally salivary and urinary curves run sympathetically under such conditions. Ionization follows between the teeth and saliva, the direction of the ions depending on the condition of the fluid. Decalcification or hypercalcification follows. This fact is basic in considering the problems of the two diseases. Consequently, excess of acids or alkalies must depend on a correct balancing of the metabolic equation. This balance may be upset by means other than the diet (which has, to date, received the most attention), such as psychologic influences. This is of greatest importance as a causative of chronic diseases including caries. The endocrines also have their bearing on the problem, balanced metabolism resting entirely on their proper coördination. The body's reaction to disease depends on the stability of the autonomic system. In pulmonary tuberculosis, the patient's reaction to the infection is as important as the virulence of the infection. In tuberculosis, the same conditions are at fault as in caries or pyorrhea. The medium (the tissues) is the more important and to it studies must be turned in the future. The explanation must be sought in the altered chemistry for the pathologic changes which result from disease as well as for the inception of the disease itself. "To our chemical individualities are due our chemical merits as well as our chemical short-comings; diseases are inherent in our chemical structure." Teeth of tuberculous patients show lesions of both sorts, caries and pyorrhea. A definite correlation exists between the dental condition and the salivary reactions in patients examined.

The fundamental underlying factors in dental lesions are associated with metabolic

imbalances and the teeth become factors of great importance in estimating the reaction of individuals to their infections and hint strongly of the ultimate prognosis as well as, possibly, a definite treatment.

—*Copy.*

247—Bryan, A. W. D. D. S.: **Etiology of periodontoclasia (part of a symposium on periodontal diseases)**, in: J. of Periodontology, iv: 73-76, Jan., 1933. Iowa Dent. Bull., xix(2): 37-39. Apr., 1933.

A discussion of the etiology of periodontoclasia, in which factors of local irritations are designated as the cause of most types of gingivitis; factors of irritation in the form of excessive stress are frequently the primary factor in the destruction of the deeper supporting tissues; and when pockets are once opened, infection is a major item; systemic factors are important in that they determine the ratio between resistance and cause.

—*J. O.*

248—Campbell, J. M., D. D. S.: **The influence of diet on pyorrhoea alveolaris**, in: D. Mag. Oral Topics, lx(5): 459-472. May, 1933; Modern Dent. ii(3): 14-19. Oct., 1933.

In order to avoid confusion those symptoms which characterize the condition referred to as pyorrhoea alveolaris are enumerated. The local manifestations are receding hyperaemic gums liable to bleeding, pus oozing from the alveoli, loose teeth and halitosis.

Four cases of pyorrhoea alveolaris which were cured by dietary measures are cited—

Conclusions:

1) Pyorrhoea alveolaris is invariably accompanied by constipation; often also by such symptoms as rheumatism, indigestion, unhealthy skin conditions, etc.
2) In a large percentage of cases pyorrhoea alveolaris results from a diet containing a preponderance of refined and denaturalized foods (e. g. white flour and refined sugar), over-eating especially of protein, and a lack of foods containing roughage and organic mineral salts (fresh vegetables, fruit and milk).
3) An improper diet acts usually by inducing a sluggish unhealthy state of the intestines. This unhealth spreads backwards and manifests itself as a furred tongue and gingivitis.
4) In suitable cases a cure will result from a rectification of dietetic errors. In the space of about a year a regeneration of the alveolar bone will take place.
5) Pyorrhea alveolaris *can* be prevented by the regular consumption of a proper diet.

—*G. H.*

249—Clarke, K.: **Some streptococci associated with periodontal disease**, in: Brit. D. J., liv(1): 30. Jan., 1933.

The idea is presented that pyorrhea originates from a streptococcal infection supervening upon a lowered resistance. Four streptococci were not isolated or identified but the research will continue.

—*M. S. W.*

250—Clewer, D.: **The dietetic factor in gingivitis and pyorrhea**, in: Brit. D. J., lv(2): 91-92. July, 1933.

Letter to the editor in which the writer asserts his belief that fusospirochetal infection and vitamin C defiiciency are of the greatest significance in the etiology of gingivitis and pyorrhea.

—*M. S. W.*

251—Clouthier, R. M.: **Constitutional diseases in relation to pyorrhea**, in: D. Review, liii(4): 198-200. April, 1933.

Lowered constitutional resistance frequently so lowers the resistance of the alveolar tissues as to favor a more rapid extension of destruction that may be taking place due to local trauma. Some form of trauma is present in most mouths however varying in intensity. Lowered constitutional resistance may be either acute, (sudden attacks of influenza, short periods of overwork, disturbances of normal life, etc.), or they may be prolonged (diabetes, nephritis, heart affections, continued dietetic deficiencies, overwork, nervous strain, anemia, arterial diseases, etc).

When health and resistance are low and calcium metabolism improper, bone is highly nonresistant thus laying the foundation for bone destruction under trauma. Foods and drugs containing metals frequently serve to lower the resistance.

—*M. S. W.*

252—Corby, A. E., D. D. S.: **Dental caries and periodontoclasia; etiology and control,** in: D. Cosmos, lxxv: 676-682. 1933.

Mental disturbances are known to possess a destructive influence upon bodily activities. It is reasonable that a disturbed mental condition might likewise influence the state of the teeth and oral tissues. Dental caries and periodontoclasia have their incidence in external factors. Disturbing thoughts and emotions will react through the sympathetic nervous system to adversely influence the proper protective function of the saliva, blood stream, oral tissues, as well as the entire body. Dental caries and periodontoclasia have been particularly rampant in the mouths of individuals in whom a highly nervous state existed.

—*G. H.*

253—Delater, Dr. G.: **La inflammation dans la pyorrhée.** Inflammation in pyorrhea, in: Rev. de Stomat.: 501-513. 1933.

The epithelial lining of the normal gingival cleft at its deepest part is only three to five cells thick. Bacteria are always present in this cleft. The thinness of the epithelial lining is, moreover, conducive to microbic infiltration. As a rule the gingival bacteria are not highly virulent and produce only a latent gingivitis which acts slowly, to bring about senile resorption. Upon lowering the tissue resistance of the gingiva, however, via endocrine disturbances (juvenile atrophy of Roy), or local traumatisms, the latent gingivitis is aggravated into a pyorrhetic state. Decalcification of the alveolar border then follows as secondary to the inflammatory process.

A schematic table of the etiology of pyorrhea is presented. Latent gingivitis is listed as the primary cause, and lowering of the tissue resistance by endocrine dysfunction, or repeated local trauma, is the secondary cause. Combinations of the two give rise to dry and suppurating types of pyorrhea.

—*G. H.*

254—Delater, Dr. G.: **La pyorrhée dans le cadre general des inflammations tissulaires.** Schematic genesis of pyorrhea alveolaris conceived in the ring of tissue inflammation, in: L'Odontologie, lxxi: 311-312. 1933.

A table is presented which consolidates the diverse etiological and pathogenic theories advanced by numerous authors, in the light of tissue inflammation. The primary cause is bacterial retention in the soft tissues involving tissue inflammation (a latent gingivitis common among adults). Directly due to this cause is the pure dystrophic type (dry or senile resorptive pyorrhea), characterized by increased inflammation, decalcification of the alveolar border and retraction of the gingival margin without presence of suppuration. A second cause, consisting of lowered tissue resistance due to endocrine dysfunction and local traumatism, combines with the primary cause to result in true pyorrhea (purulent pockets, serpigenous fistulas and gingival inflammation).

255—Doubleday, F. N.: **Evidence regarding the different types of periodontal disease,** in: Proc. Royal Soc. Med., xxvi(2): 1405-1410. Feb., 1933.

It is believed that pyorrhea may be caused by many factors besides the local one of uncleanliness. The correction of chronic constipation has improved a periodontal condition.

Broderick's theory is disputed that pyorrhea occurs in alkalosis. The administration of a parathormone and vitamins A and D was found to be extremely effective in improving a pyorrhetic condition.

—*M. S. W.*

256—Dresel, J.: **Effect of alkali water,** in: Z. f. Kurortwissensch, ii: 614-617, 1933.

(Magazine not available).

257—Elam, Roy O., D. D. S.: **Occlusion from the standpoint of the periodontist,** in: J. Am. D. Hyg., xii(1): Jan., 1933.

Rarefying pericementitis fibrosa is the first lesion in infective periodontoclasia, Traumatic occlusion is usually the cause of this lesion, (according to Box), and it is also frequently the cause of pathology of the dental pulp.

Some of the conditions which result in traumatic occlusion are malalignment of teeth, early loss of teeth, use of porcelain and other excessively hard filling materials, improper occlusal restorations, abnormal occlusal surface wear and occlusal habits.

258—Hawkins, Harold F., D. D. S.: **Nutritional influences on growth and development,** in: Int. J. Orth., xix (3): 307-312. Mar., 1933.

The calcium-phosphorous balance and acid-base balance are extremely important factors in the growth and development of bone. The blood serum in active caries or in a strict vegetarian diet is high in calcium and low in phosphorus. The alveolar process is then very dense. Teeth cannot then be readily moved. In pyorrhea the blood serum is low in calcium and high in phosphorus. In this condition the teeth can be easily moved.

Advice is given to curtail the use of cereals by both children and adults.

259—Hirschfeld, I., D. D. S.: **The dynamic relationship between pathologically migrating teeth and inflammatory tissue in periodontal pockets: a clinical study,** in: J. of Periodontology, iv(1): 35. Jan., 1933.

One of the irregularities of the dental arch associated with periodontal disease is the pathologic drifting of a tooth from its original position and location as a result of the expansion pressure of growing granulomatous tissue in a pyorrheal pocket, on that side of the tooth from which it is being pushed. The clinical cases cited indicate that such teeth can be made permanently healthy, and also that they are very apt to return to their original position and location without any orthodontic aid by removing the original cause of drift. Although traumatic occlusion may, in some instances, be a factor in the establishment of the initial periodontal lesion, it does not necessarily continue so during the migration of the tooth; accordingly, such a tooth may automatically return to its original position without any attempt by the operator to modify the occlusion.

—*J. G. O.*

260—Hume, L. B., B. D. S.: **The influence of systemic disease, metabolic disturbances and constitutional irregularities on the incidence of dental disease,** xxxvii (10): 376-382. Oct., 1933.

In order to maintain the entire body in a state of health a proper balance and activity of the various glands and organs is essential. The parathyroids, Vitamin D and phosphorous are concerned with calcium metabolism as well as the liver, spleen, heart, circulatory mechanism and the endocrines, There exists a close relationship between the sympathetic nervous system and the endocrines so that each may influence the other and also the buffering powers of the various organs. Any disturbance of these glands or nerves may readily influence the health of the dental tissues.

—*M. S. W.*

260†—Hume, L. B., B. D. S.: **Observations on the endocrines, metabolism and dental disease,** in: D. J. Australia, v: 19-27. 1933.

The author reports that the degenerative changes in the mucosae (early pyorrhea) is a concomitant feature of 95% of cases with lymphocytosis. A slight lymphocytosis is seen in most cases of endocrine disturbance. "It seems probable, therefore, that the initial lesion in pyorrhea may be due to some endocrine disturbance, which influences the hemapoietic tissues in such a manner as to alter the composition of the circulating blood, and conduce in some way to degenerative changes in the oral mucosae which may later proceed to more severe lesions." The degeneration and lowered resistance is conducive to bacterial invasion.

While the above is occurring alveolar resorption, abstraction and replacement of lime salts takes place. The amount of calcium in the diet is relatively unimportant since the calcium metabolism is controlled by the parathyroid through its activation of vitamin D. The parathyroid glands are in turn ennervated by the sympathetic nerve system. Its activity is, furthermore, dependent on the entire endocrine system and is especially influenced by the pituitary gland which is the governing center of all body metabolic processes by virtue of its influence on the total endocrine system.

Endocrine disorders may influence the mental make-up. The psychological make-up is reflected in the structure of the teeth and susceptibility to caries and pyorrhea.

Centuries of unbalanced diet may result in an endocrine disturbance. It is possible that such an endocrine upset may be inherited. "Heredity plays a large part in the incidence of pyorrhea and caries indirectly through the endocrines whose functions are in some way influenced by the presence of vitamins."

261—James, Warwick W.: **Simple gingivitis**, in: Brit. D. J., lv (11): 551-557. Dec., 1933.

Gingivitis frequently occurs in mouths where complete eruption has not taken place. These patients do not keep their lips closed and have an occlusion which is post normal. Negative pressure which is found in the normal mouth is completely absent. Clinically the gingiva present an oedematous condition occasionally appearing as hypertrophy.

The above type of gingivitis is associated with mouth breathing which is the most significant of all the factors contributing to gingivitis.

Treatment consists chiefly of removal of all local factors. The patient should prevent the exposure of the gingivae to air and increase the bathing of gums by saliva. This can be accomplished by methods and appliances which are recommended, especially a mouth screen which has proven highly effective.

—*M. S. W.*

262—Lackmann, A.: **Étude schematique et resumée de la pyorrhee alvéolaire ou paradentose.** Schematic study and summary of pyorrhea alveolaris or paradentosis, in: Sem. Dent.: 657-662. 1933.

A presentation of the symtomatology, etiology, treatment and terminology of the disease.

"The pyorrhetic states are chronic pathologic conditions of the gingivo-dentary region, characterized by the progressive destruction, most often purulent, of the surrounding tissues of the teeth, which have lost their power of resistance under the action of profound general causes usually accompanied by aggravating local causes."

Under symtomatology a short clinical and microscopic picture of the familiar symptoms encountered in pyorrhea are given.

Under etiology are listed the multiplicity of theories that have been evolved. A significant statement is—"rare are those who see in pyorrhea only a local disease."

The treatment of pyorrhea naturally varies with the etiology. The local treatment runs from the establishment of local hygiene to surgical, chemical, mechanical and electrical methods. Under general treatment Hulin states that it is necessary to sensitize the organism to the albuminoids (marginal débris, microbes, etc.,) which create the pyorrhetic condition. He does this by administering sodium hyposulfite orally.

Under terminology is presented the already well known classification of pyorrhetic states adopted by the International Dental Congress of Paris in 1931. The somewhat similar classification of the paradentoses adopted by the A. R. P. A. is also given.

—*J. H*

263—Levitsky, Benjamin: **Traumatic occlusion**, in: Temple Dent. Rev., iii(4): 15-17. May, 1933.

Periodontal injury and infections are likely to occur whenever traumatization is accompanied by a low resistance of the local tissues, a high state of infective activity, or bad oral hygiene.

Traumatic occlusion is a factor not only to be given considerable attention by the orthodontist and the pathologist but also by the general practitioner as a measure of preventive dentistry.

264—Lidji, I.: **Eine neue Theorie der Pyorrhoea Alveolaris.** A new theory of the origin of pyorrhea alveolaris, in: Odontologiá, xli: 441-446. 1932. Abs. Deutsche Monat. f. Zahnheilkunde, li: 843-844. 1933.

The tooth during its development exerts pressure on the jaw bones and so provides the alveolus for itself; if growth stops, so does the pressure. There remains then the tendency of the jaw to make whole the metaplasia caused—the alveolus. The tooth prevents this as long as it has its antagonist; if it loses this or if other damages occur, for example, loss of its neighbor, the resorption gets the upper hand and the tooth is ejected. This is frequently observed. Pyorrhea alveolaris is a physiological process of the overpowering force of the jaw against the opposing energy of the tooth. The name "Biodynamic Exodontia" is proposed.

—*J. G. O.*

265—Lindenbaum, L. M.: **Paradentosis-Pathogenesis**, in: Ztschr. f. Stomat., xxi: 1045-1068. 1933. Abs. J. Am. Dent. A., xx: 2274-2275. Dec., 1933.

A systemic examination of 1,010 cases of paradentosis in relation to their blood grouping and genotypical constitutional condition

of paradentosis is reported. The majority of patients with paradentosis suffer from infectious diseases such as influenza, typhus and malaria, a group of diseases which, according to their patho-anatomic influences on the human organism, belong to that general group of infections which cause stasis, thrombosis and obliteration of the arterioles and capillaries. These occurrences are associated with metabolic disturbances and atrophy of affected areas. On the basis of this study, it is logical to state that the pathogenesis of paradentosis is connected with lesions of the vascular end-apparatus of the paradentium. These vascular alterations are brought about by certain infectious diseases (influenza being the chief one) which influence both the vascular apparatus and the nervous system controlling this apparatus. Other factors may enter into the functional state of the general vascular system, especially the vascular end-apparatus. Very often, paradentosis is a constitutional disease.

—*Copy.*

266—McCall, John Oppie, D. D. S.: **The periodontist looks at children's dentistry,** in: J. Am. Dent. A., xx(8): 1518-21. Aug., 1933.

Gingival disease is as common as caries in the mouths of children. Contrary to the findings in adult mouths it is rare to see gingival disease in a child's mouth where there is no caries, and it may frequently be traced to caries as its etiological factor.

Proximal contact has often been lost due to proximal caries and frequently resulting in localized gingivitis. Traumatic occlusion is responsible also, for the development of gingivitis although pocket formation is absent or very shallow.

Treatment consists of restoring function, establishing mouth cleanliness, and stimulating the gingivae with the toothbrush.

267—McDonagh, Andrew J., D. D. S.: **Receding gum margins, (Part of a symposium on periodontal diseases),** in; J. Periodontology, iv: 61-68. Jan., 1933.

McDonagh believes the only important factor underlying all recession of the gingival margins to be the lack of free blood circulation in the gingivae. Other factors become serious only when the blood supply to the tissues is inadequate. Recession can be arrested and brought back by proper stimulatory measures.

—*J. O.*

268—Moizer, Dr. Arpad: **Die Atiologie der Paradentosen in neuer Beleuchtung.** A new viewpoint of the etiology of paradentosis, in: Korrespondenzblatt f. Zahnärzte, lvii: 156-157. 1933.

Dr. Moizer believes that the local incurable paradentosis appears as a secondary symptom, and is a result of the disease of the nasal air passages, which can be considered as the primary cause.

—*J. G. O.*

269—Radusch, D. F., D. D. S.: **Diseases of the soft tissues of the mouth,** in: J. Am. D. Hygienists A., vii: 3-10. April, 1933.

A review of the fundamental factors in periodontoclasia. The greatest percentage of cases can be controlled by local treatment regardless of a probable systemic etiologic involvement. Many cases require nutritional regulation. Cases which do not respond to the usual treatment should be referred to the internist. For best results both local and general treatment should be instituted.

A review of Vincent's infection is also presented as are brief notes on the oral symptoms in measles, scarlet fever and leukoplakia.

—*G. H.*

270—Reynolds, R. A., M. D.: **Relationship between endocrine dysfunction and paradental disease,** in: J. Am. Dent. A., xx: 1850-58. 1933.

Making due allowance for local factors there appears to be some additional predisposing constitutional factor not yet understood. Of the seventy-five patients studied, cases of filthy mouth leading to a marginal suppurative gingivitis were omitted, also cases belonging to the group of senile physiological atrophy and those in which trauma played an important role.

It seems reasonable that endocrines might regulate the structure of alveolar bone and gum tissue since these glands are known to play an important role in the chemistry of the body.

CONCLUSIONS:

1) In a series of 36 cases studied with advanced paradentosis, 86 per cent revealed coexistent endocrinal disturbances.
2) Of these endocrine disturbances hypothyroidism was found to predominate (27.8 percent.)
3) The limited data on the etiology of paradentosis indicate a constitutional or deep-seated chemical condition as a possible cause.

—*G. H.*

Becks, Hermann (San Francisco): Discussion of Dr. Reynolds' paper, in: J. Am. Dent. A., xx: 1854-58. 1933.

Dr. Reynolds has reported endocrine disturbances and paradentosis to be coexistent in 86 percent of the cases he examined. The question is whether paradentosis is pathognomonic of these endocrine diseases. We know of no clinical symptoms of the oral cavity indicative of endocrine dysfunction and it is questionable whether paradentosis should be considered a sign of such dysfunction. The dental findings are, furthermore, not yet pathognomonic for the endocrine diseases.

The discrepancies between the different observations on the relation of paradentosis and constitutional symptoms are mainly due to the fact that the examined cases may not have belonged to the same type of paradentosis. Reference is made to Reynolds' and Citron's observations. If progress is to be made we must classify our cases exactly.

The author mentions some of his own work on diffuse dystrophic paradentosis (diffuse atrophy of Gottlieb). He finds an increase in the calcium content of blood serum with a non-proportionate increase in inorganic phosphate content. These proportions were reversed in saliva. There is, moreover, a relationship between calcium metabolism, vitamin D and the endocrine system. It is imaginable that endocrine dysfunction not only affects the osseous system but also the circulatory system through which all types of paradentosis may result.

—*G. H.*

271—Rieser, Dr. Paul: **Kapillaroskopic bei paradentalen Erkrankungen.** Capillary microscopy in paradental diseases, in: Paradentium, v:171-184. 1933.

Capillary pathology and the factors which alter the capillary vessels are discussed. After presenting the dental side of the researches to date, the meaning and worth of structural diagnosis (W. Jaensch and co-workers,) and the functional point of view (O. Müller, Tubinger,) were elucidated and compared as they are related to paradentosis.

Differences in the behavior of the capillaries in the vasoneurotic diathesis (Müller) as against the allergic-arthritic (Loos-Spiro) are not evident, so that an analysis of the conclusions cannot be reached.

In investigations of patients who suffered from diseases of the gums and tissues, especially paradentosis, the greater number had vasoneurotic changes of the skin and mucous capillaries, especially of the gums. Most of these cases also show former bodily disturbances, which belong to the vasoneurotic or allergic-arthritic diatheses.

The results confirm the view of Loos, that functional anomalies of the gingival capillaries, and their changed reaction conditions, constitute a predisposing cause in the etiology of marginal inflammation and paradentosis.

—*J. G. O.*

272—Rosenthal, Dr. A.: **Cliniques stomatologiques.** Clinical stomatology, in: Sem. Dent.: 1253-1260. 1933.

The author discusses the important role that dental lesions may play in digestive troubles. Mechanical factors play a part of prime importance. An unhealthy mouth, sensitive teeth, pyorrhea, pulpitis, etc., prevent the proper use of the masticatory apparatus. Insufficient and improper mastication and lack of salivary action on food throw an added burden upon the gastric apparatus. The pepsin action becomes insufficient, the gastric muscular movements are augmented, hyperacidity sets in and simple dyspepsia without organic lesions occurs. How often dyspepsia leads to organic gastric lesions such as ulcers is common knowledge. Moreover, hurried mastication may lead to aerophagia (swallowing of air), and the resultant pressure of the air in the stomach upon the heart may cause the symptoms of angina pectoris. The author cites such a case.

Infection from dental foci often works concurrently with the mechanical factors to produce gastric ulcers and disturbances. Rosenow has incriminated the streptococci

which invade the gastric mucosa via the blood stream. Pyophagia also plays a part in bacterial dissemination.

Conscientious and scientific dental observations and treatment will aid considerably in the prophylaxis and therapy of digestive diseases.

—*G. H.*

273—Salvatore, Grego.: **Contributo alla conoscenza della stomatitis ulcéro-membranosa.** Contribution to the study of ulcero-membranous stomatitis, in: Annali di Clinica: Abs., in: Revue Belge Stomat. 1933.

In the etiology of ulcero-membranous stomatitis the author has never determined the presence of a specific microbe. In the necrotic areas we find a polymicrobic flora, and most often fusiform microbes and spirochetes, especially the attenuated.

We also find, but not constantly some streptococci, staphylococci, heterococci and microbes of the subtilis group. These germs are not virulent for laboratory animals especially when they have not determined a septicemia but only simple lesions.

The therapeutics must modify and change as much as possible the local and general conditions and must above all be germicidal.

—*Transl. Abs., G. H.*

274—Schoeny, L. J., D. D. S.: **Some etiological factors in periodontoclasia; its prognosis and treatment,** in: New Orleans Med. Surg. J., lxxxv: 753-757. 1933.

The author points out the importance of periodontoclasia as a focus of infection by pyophagia via blood and lymph channels. Seventy-eight percent of persons over thirty years of age have suppurative destruction of portions of the maxillary bones. The periodontal pocket presents even more absorption and general systemic disturbance than from the periapical or residual types of infection. The successful treatment of periodontoclasia not only involves complete eradication of the pus pockets but includes correction of all predisposing and contributing factors and a consideration of diet. Surgical treatment should not be instituted when an acute spirochete and fusiform bacillus infection exists. The acute state should first be relieved.

—*G. H.*

275—Silenzi: **Oral surgery,** in: J. A. M. A., ci (19): 1496. Nov., 1933.

Italian correspondent reports "Societa' Italiana di chirurgia della bocca e ortopedia dento facciale," which met in Rome, Professor Zunini, Chairman.

According to Silenzi, of Rome, alveolodental arthritis, of which pyorrhea is a direct consequence, is intimately connected with dysfunction of the endocrine glands and with a disturbed colloidal equilibrium. Rosa of Rome reported a case of epulis. The tumor was in the alveolar cavity of the upper right third molar, in a patient aged 40. The microscopic examination revealed that the periphery was composed of a stroma of connective tissue with an invasion of round cells, while the center was a dense fibrous structure containing numerous bony trabeculae in process of formation.

—*C. R.*

276—Soinjen, Dr. Ivan: **Seltene Fälle von Gingivitis.** Rare cases of Gingivitis, in: Korrespondenzblatt f. Zahnärzte, lvii: 122-125. 1933.

The first case presented is one of bleeding from the gums. All methods of treatment were tried, but to no avail. The main complaint was of waking up in the morning with a mouth full of blood and a dry taste. Dr. Soinjen made an appliance of compound material for insertion into the mouth, thus forcing the patient to breathe through the nose during the night. After three months of nose breathing, the condition cleared up, and the habit of nasal breathing was firmly established.

The other case cited is of a gingivitis due to irritation from lipstick, which was cured by abstaining from the use of lipstick.

—*J. G. O.*

277—Stoloff, Charles I.: **Periodic transitory meno-gingivitis incidental in women: a new non-pathological classification of gingival disturbance,** Abs. in: J. Dent. Research, xiii(3): 190-191. June, 1933.

A syndrome of discomfort, sensitiveness, redness and congestion, and ready bleeding under normal stresses of mastication and tooth brushing, is described as occurring in the mouths of women. The syndrome, characteristic of "periodical transitory meno-

gingivitis", is thus designated by the author because of periodic appearance, transitory nature, and occurrence at monthly intervals. From observations over a period of twelve years, he finds the syndrome a common occurrence in the mouths of most women. It is apt to be overlooked because many women feel premonitory physical indications of the menses, such as hypersensitiveness, nervousness, weakness, etc. It appears periodically in acute form when mouth hygiene is neglected, or when local and systemic irritants are present, particularly in women subject to or suffering from acute functional gynecological disturbances other than pregnancy. The syndrome has often been observed in acute form, in various cases, just prior to initiation of menstruation; in amenorrheas of different types; in cases of post-hysterectomy prior to and after unruptured ectopic; and during and after the menopause. Diagnosis of this condition is never justified by one observation; it should be checked-up over a period of several months. Periodic transitory menogingivitis should be suspected in cases of gingival disturbance that appear to clear up under approved methods of gum treatment, but which periodically relapse without apparent local justifiable cause. Knowledge of the dates of menstruation should be available for differential diagnosis. Coöperation of the patient's physician is necessary to determine whether she suffers coincidentally from functional gynecological disturbance.

—*Copy.*

278—Turnbull, J. D., L. D. S.: **Periodontal disease,** in: D. Record, liii: 174-178. 1933.

There are three schools of thought as regards pyorrhea, one of which regards it as a disease resulting from the fermentation of carbohydrates derived from the food at areas favorable to bacterial growth. The condition productive of pyorrhea is the same as that of caries, yet there is evidence that caries and pyorrhea are not coexistent. The prevalence of caries and absence of pyorrhea in children is cited.

A second school maintains that pyorrhea results from a metabolic disturbance in the body as a whole. A change of the CO_2 content of the blood determines whether there is to be a condition of acidosis or alkalosis, the latter predisposing to pyorrhea and the former to caries. A diminution of the CO_2 content of the blood results in release of lime salts normally held in solution by dissolved carbon dioxide and a consequent elimination of calcium by deposition. Pyorrhea may result from subgingival calculus thus deposited.

The vitamin deficiency theory is also mentioned.

—*G. H.*

279—Urbantschitsch, E. H.: **Calculus dentalis supragingivalis, genese, pathologie et therapie.** Dental supragingival calculus, in: Zeitschrift f. Stomat., xxxi: 235-242. Feb., 1933, xxxi: 372-384. Mar., 1933.

The genesis and pathology of supragingival calculus are discussed with numerous references to the work of various investigators in the field. There is no good classification of dental calculi and any such would have to be made on an arbitrary basis. There are various theories of calculus formation, salivary, hematogenous, inflammatory, petrification, and calculi due to mycoses. The salivary theory is perhaps the most widely accepted. Bacteria may have a predisposing influence, but do not affect the further development. These supragingival calculary deposits are not products of pathological conditions, but of intrinsic physiological factors, which later may become pathological. Complete intraoral dissolution of calculus by medication is out of the question.

—*J. G. O.*

280—Vrijhorf, H. C. Van den: **Infection of tonsils in paradentosis,** in: Nederl. Tijdschr. Vg., lxxvii: 2219-2220. 1933.

(Magazine not available).

281—Wymond, G.: **Effect of environmental change on hard and soft tissues of the mouth,** in: Australian J. Dent. March and April, 1933; Abs. Brit. D. J., lv: 409. 1933.

Interesting observations on the incidence of dental caries—observations which corroborate sporadic reports through the last fifty years of dental literature—namely, the appearance or disappearance of dental caries as a result of the change of environment. Parker noted that this change was comprehensive in the immigrants into Queensland about four years ago, particularly among Italians.

G. Wymond notes that all his cases showed oral degeneration subsequent to changes in environment—these changes were irrespective of oral hygiene—and suggests that change of diet allied to climatic change might be responsible. The general health of the patients examined was unaffected as they were robust and in good health. In a few cases the soft tissues were not involved, the incidence of caries being the most noticeable symptom. The noticeable change in the diet was the increased consumption of protein and a decrease in that of cereals. W. E. Fleming, taking note of this communication, gives a note of warning, suggesting that these untoward changes may have commenced before the change of environment occurred. Nevertheless he gives a striking case in his own experience of an Australian lady who had been careful of her mouth and under observation for years. After an absence in Europe for eight months caries was extensive. Her health had remained good the whole of the time, the food had been that to which she was accustomed. The usual accusation against the sunless summers in England is offered as a solution.

282—Zemsky, J. L., D. D. S.: **Is traumatic stress *per se* a cause of hypercementosis?**, in: J. Am. Dent. A., xx: 1679-1690. 1933.

The author's study of the existing relationship between hypercementosis and traumatism, based on a considerable number of clinical and radiographic observations, indicate that there is a lack of direct or causal relationship between traumatism and hypercementosis. A large percentage of impacted, unerupted and malposed teeth show no evidence of hypercementosis which is frequently seen on teeth giving no evidence of occlusal trauma. Many teeth completely out of occlusion show hypercementosis and teeth with marked traumatic occlusion may present no hypercementosis. Therefore, traumatism *per se* is not responsible for hypercementosis but further clinical observation by the general practitioner with checking or radiologic findings is necessary to prove this contention.

—*G. H.*

(e) Symptomatology and Diagnosis

(Continued from iv(2): 214. July, 1933)

166—Adrion, Dr.: **Paradentosis**, in: Deutsche Med. Wchnschr., lix: 879-880. 1933. Abs. J. Am. Dent. A., xx: 1730-1731. Sept., 1933.

The author defines paradentosis as a disease of the entire masticatory apparatus, e. g., the teeth, peridental membrane, alveolar bone and mouth mucosa. They are all functionally interdependent, influencing one another. It is caused by both exogenous and endogenous hereditary conditions which result in a slowly developing and painless affliction. It begins as a superficial inflammation of the gums which leads to paradental tissue and bone destruction, accompanied by inactive granular tissue formation in the peridental space. The clinical manifestations are light bleeding from the gums, fetid odor, occasional flow of pus on pressure, single or multiple loosening and loss of teeth, and torso-occlusion of anterior teeth. The following three forms are often represented clinically: (1) Catarrhal—The gums bleed and appear swollen, with a bluish or dark red margin. The papillae are edematous and thickened. This form may result in loosening of teeth and catarrhal paradentitis, with pocket formation. The epithelium in this pocket is pathologically changed and presents the picture of granular tissue. Hyperemia develops around the seat of infection and hinders the regular supply and drainage of blood and other secretions. (2) Hypertrophic: This form is represented by a paradental abscess arising from the accumulation of the foregoing secretions. (3) Atrophic: The gums shrink and recede, without pocket formation. The loosening of the teeth is caused by the absorption of the alveolar bone, by the widening of the peridental space and by replacement of the peridental membrane with granular tissue.

The treatment consists of prophylaxis, thorough scaling of all teeth and a thorough care of the mouth by the patient. The use of medicines is not indicated. The inflammation should be treated as such, and its causes removed.

—*Copy.*

167—Akerberg, E.: **Primary tuberculosis complex of skin and gums,** in: Acta Dermat-venereal, xiv: 127-133. 1933.

Magazine not available for abstracting.

168—Bouez, A., Dr.: **Cas de pyélites secondaire à une pyorhée alveolo-dentaire.** A case of secondary pyelitis with alveolo-dental pyorrhea, in: Sem. Dent.: 287-289. 1933.

Report of case of a woman, aged 44 years, who complained to her physician of pains in the region of her right kidney and other symptoms indicative of pyelitis. The usual treatment was unsuccessful. The patient was then sent to the author who found an advanced pyorrhea present. Local treatment was instituted and the gums and teeth were restored to health. The systemic symptoms disappeared. After a brief relapse, during which local and systemic treatments were given, the condition finally cleared up. The opinion is expressed that "in certain distant infections, but of dental origin, the treatment of the cause is not sufficient but it is also necessary to attack the secondarily infected region."

—*G. H.*

169—Box, Harold K., D. D. S.: **The Prevention of periodontitis,** in: J. of Periodontology, iv(1): 19. Jan., 1933.

Ideal occlusions, with high local and general resistance to infection is the best preventative of periodontitis. There is evidence in favor of the existence of fundamental lesions of gingival tissues apart from gingival infection especially in cases of good oral hygiene. Clinical observations indicate that manifestations of general systemic disease usually appear in direct ratio to the character of the local basic state of the mouth and in many cases, with rapid extension of established lesions. If functional conditions of the mouth are satisfactory and the oral tissues do not clear up a systemic disturbance should be looked for. Finally, malocclusion is an important factor in periodontal diseases primarily in the induction of early loosening of the tooth, and secondarily in its relation to gingival resistance to infection.

—*J. G. O.*

170—Boyens, P. J., D. D. S.: **Theories and practices in the treatment of paradental diseases, including conservative surgery,** in: Pacific Dental Gaz., xli: 587-591. 1933.

The classification of the diseases of the paradentium adopted by the Eighth International Dental Congress and presented in this country by Dr. H. Becks. Seven diseases are listed:

1. Pure gingivitis
2. Preparadentosis gingivitis
3. Inflammatory paradentosis (Schmutz-pyorrhoe)
4. Complicated paradentosis
5. Dystrophic paradentosis
6. Presenile atrophy
7. Senile atrophy

Inflammation is the only cardinal manifestation of 1 and 2 while alveolar absorption with no inflammation identifies 6 and 7. In type 3 inflammation is followed by absorption. In type 5 vertical absorption is followed by localized inflammation. Type 4 is a combined type (3 and 5). It is the end result.

"Vincent's infection bears a very intimate relationship to inflammatory paradentosis and constitutes but one out of a very large group of possible causative factors, namely: infection."

"There is perhaps seldom a case of paradental disease which is entirely local in its etiology." Systemic relationships may be classified as (1) systemic conditions resulting from dental infections (focal infections and secondary diseases); and (2) systemic conditions directly or indirectly causing dental disorders. Avitaminosis is an example of the latter.

The relationship between endocrine dysfunction and paradentosis has not been fully established but at least hints at a solution to some problems. Hormones exercise a profound influence upon metabolism, resistance to infection, capillary circulation and epithelial growth.

The author suggests a relationship between stomach function (hyperacidity) and salivary calculi and also a relationship between an excess of high protein foods and salivary deposition.

171—Breuer, Karl, M. D.: **Stoffwechseluntersuchungen bei Erkrankungen des Paradentiums.** Investigations into the metabolism of diseases of the paradentium, in: Zeitschrift f. Stomat., xxxi: 982-994. 1933.

After a critical survey of his own findings and those reported in the literature, Dr. Breu-

er attempts to answer two questions: is it possible, under present methods of investigation, to arrive at the conclusion that internal diseases or functional anomalies of the internal organs are causes of paradentosis; and has the therapy, built up on the basis of these investigations, any results to show?

After discussing the blood sugar content, carbonic acid buffering power, and gas exchange the statement is made that no metabolic picture, characteristic of paradentosis can be drawn. Since it is not known what the lowering of the specific-dynamic albumin activity really means, it seems that its rise in the cases cited is without practical meaning, and the demand of many to have a metabolism test taken of every case of paradentosis is not justified. The results of therapeutic treatment are varied and conclusions cannot be drawn.

—*J. G. O.*

172—Breuer, Karl: **Further studies on metabolism in cases of paradentosis,** in: Paradentium, pp. 30-31. Oct., 1933. Abs. J. Am. Dent. A., xx: 2274-2275. 1933.

Close study of twelve cases of paradentosis reveals that the majority of cases show a normal basal metabolism. The specific dynamic albumin index, taken from three to five hours after a meal in cases of paradentosis, was lowered. In cases of dystrophia diffusa, the specific dynamic albumin index was lowered, while in cases of paradentitis profunda simplex and dystrophia complicata, the index was found to be raised. The author concludes that the determination of the specific dynamic food effect in the diagnosis of a true Gottlieb's diffused atrophy corresponding, more or less to a dystrophia diffusa cannot be taken as an aid in differential diagnosis of the disease.

—*Copy.*

173—Charlet, R., and De Croes, J.: **La radiographie et la maladie de Fauchard.** Radiography and Fauchard's disease, in: La Presse Dent.: 155-160. Mar., 1933.

Radiography is an indispensable aid in the diagnosis and treatment of Fauchard's disease (pyorrhea). It enables one to determine the extent of alveolar resorption, its direction, the alveolar density to follow the progress of the disease and its response to treatment. Radiographic illustrations of alveolar atrophy and a chart for recording radiographic observations are presented.

—*G. H.*

174—Fischer, Guido: **Neue Wege zur Erkenntnis und Behandlung der Hauptprobleme: Karies und Paradentose.** Caries and paradentosis, in: Teil II. Die biologie der pulpa bei exogenen störungen. Paradentium: v: 41-171. 1933.

In spite of great technical improvement, dentistry has not advanced in its greatest problem, that of caries and paradentosis. Caries must be treated from a constitutional viewpoint. The difference between the structure and calcification of teeth of healthy and sick people is discussed. The pulp of healthy individuals is capable of greater resistance and protection than that of ill individuals. The tooth tissues are bound intimately in structure, calcification and function with the total metabolism. All disturbances express themselves in the teeth but power of resistance comes from the constitution. After closure of the roots, the pulp goes the way of all congestions, remains extremely basic and builds its own metabolism, which protects the soft connective tissues from early death. The sensibility and dentinal metabolism remain preserved until old age.

The pathogenic microörganisms find unfavorable conditions in the alkaline pulp, especially the acid forming bacteria of caries.

Caries and paradentosis are antagonists. Caries leads to acidosis, paradentosis to alkalosis of the pulp. The state of the periosteum is the reverse, acid in paradentosis and basic in caries. In this fundamental physical-chemical retention, lies the secret of a successful therapie. Before all therapeutic measures must stand the motto: to retain, require and produce, above all, a basic reaction in the living tissues, and to fight acidity wherever it shows itself or is even suspected.

The filling technique in caries must consider: (1) the constitutional condition of the dentine and enamel (structure and calcification), (2) the former irritation of the pulp in caries of the enamel, without any necessary clinical symptoms (spontaneous pain) appearing.

Protection of the pulp and dentine are necessary conditions for a complete filling material.

The treatment of pulpitis can be successful only by aseptic methods and only by materials soothing to the tissues (calcium salts). The point of future treatment must be the biological alkalinizing treatment of the paradentium, which avoids all cell poisons and works only with tissue salts. The artificial alkalinity in the root canals leads to preservation of a functional and resistant periosteum. The maintenance or creation of a sound apical tissue area is the cardinal point of the whole treatment. Above all prophylaxis is the most important single factor in therapy.

—*J. G. O.*

175—Flandrin, M. Ch., and Sassier, P.: **Affections cutanées et systeme dentaire.** Cutaneous infections and the dental system, in: La Presse Med. Feb., 1933. Abs. Rev. Belge de Stomat. 1933.

Report of a ten year period of observation of the most diverse infections of the skin whose external treatments were totally disappointing. These diseases, carriers of lesions of several months standing, after ordinary dental treatment, were rapidly cured. These cutaneous lesions were diverse; eczemas for the greatest part, urticaria reszona, pelades, prurigo. The characteristics of most of them are described.

The influence of dental lesions on certain cutaneous infections is, therefore, certainly more frequent than generally suspected. Physicians, dermatologists, stomatologists, and dentists should recognize the possible relationship of these diseases.

—*G. H.*

176—Ganthous, Dr. H.: **Un cas de leucemie aigue commencant par une gingivo-stomatite severe.** A case of acute leukemia beginning in a severe gingivo-stomatitis, in: Rev. Gen. Clin. Therapeut., xlvii: 583. 1933.

Case report of a young woman with no hereditary disease and no history of blood disorders. An acute stomatitis set in with high temperature, gingival hemorrhage and general symptoms of headache, lumbago, etc. After unsuccessful dental treatment a blood test showed a typical picture of leukemia. The disease was fatal.

—*G. H.*

177—Held, A. (Geneva): **Some considerations upon parodontosis,** in: Schweiz. Mschr. Zahnheilk., xliii: 211-218. Mar. 1933. Abs. D. Cosmos, lxxv(7): 714-715. July, 1933.

According to the elementary text books on dental pathology, clinical dentistry and dental therapeutics, parodontosis represents a very simple, precise and distinct entity. But searching deeper into this pathologic state, we realize its extreme complexity.

At the Eighth International Dental Congress the most eminent practitioners condemned the term "alveolar pyorrhea," a term that can justly be accused of being the cause of innumerable errors and confusions! The term "parodontosis," proposed by the German ARPA, has been approved. Although this term perfectly explains the clinical findings and its visual aspect, it has not had the approval of the Vienna school nor of the American school. And according to Gottlieb, it will bring more confusion than the term "pyorrhea."

Parodontosis represents more exactly a symptom, which, associated with other symptoms and involving other organs, will permit the establishment of the etiologic diagnosis. According to the experimental demonstrations of Katase of Tokio and of his pupils, parodontosis appears to be associated with a modification of the alkaline reserve of the blood in an acidosis direction; this loss or alteration could have several origins.

Held says further that, after a certain age limit, parodontosis constitutes a manifestation that can practically be considered as a physiological state, for we find it nearly constant in aged persons who have preserved their teeth. But this age limit is not well defined; the beginning of senility occurs at very different ages, according to individuals. It is evident that as an absolute point of view, the parodontosis of the old man constitutes a pathological status, just the same as the gray hair, the appearance of the wrinkles on the skin, etc.; but these signs have to be considered practically as a physiological state.

The author lays stress on the early differential diagnosis between a simple marginal gingivitis and a preparodontosic gingivitis; this diagnosis is quite difficult to establish.

—*Copy.*

178—Held, Dr. A.: **Quelques considerations sur la paradentose.** Several considerations concerning paradentosis, in: L'Odontologie, lxxi: 305-311. 1933.

179—Herrmann, M.: **Localization of lead sulphide in the gingivae,** in: Vierteljahrsschr. f. Zahnheilk., xlix: 1, 1933. Abs. J. Am. Dent. A., xxi: 1107 1934.

In one acute and one chronic clinical case of lead poisoning, a microscopic study of the gingivae was made. The latter showed on the basis of chemical and histochemical examination deposits of lead sulphide. The localization of the lead sulphide differed in each case. In the chronic case, the deposits were found in the papillary stroma, the histocytes and especially the walls of the blood vessels. In the acute cases, the deposits were at the boundary between epithelium and connective tissue, in the intercellular spaces and in the epithelial cells.

180—Hoffman, K. F.: **Relation of diseases of paradentium to internal medicine,** in: Med. Welt., vii: 668-669. 1933.

(Magazine not available.)

181—Holmes, L. B.: **Common varieties of gum inflammation,** in: Guy's Hosp. Gaz., xlvii: 430-434. 1933.

(Magazine not available.)

182—Hopkins, Arvah S., D. D. S.: **Gingival infection of unusual origin** (Incidents in office practice), in: J. Periodontology, iv: 88-89. Jan., 1933.

Description of a case of fungus infection of the gingiva. It is a rare condition with few cases occurring in the literature.

—*J. O.*

183—James, Frederick, D. D. S.: **Pyorrhea alveolaris; chronic suppurative alveolo-dental periostitis,** in: Temple Dent. Rev., iv(1): 14-18. Nov., 1933.

Comprehensive article covering the history, etiology, classification, symptoms, morbid anatomy, histology and pathology of pyorrhea alveolaris. This term should be applied only to those conditions which show a flow of pus from the alveolus.

The statement is made that the disease is essentially dependent upon an atrophy of the bone. "The presence of calculus is not sufficient in itself to induce the condition and may not be associated with it at all as a predisposing or an exciting factor."

In all cases it is absolutely essential to make a microscopic examination of the exudate, and a blood examination.

184—Jung, Charles (Geneva): **Parodontosis and Internal Medicine,** in: Schweiz. Mschr. Zahnheilk., xliii: 206-211. Mar.,1933 Abs. D. Cosmos, lxxv(7): 714-715. July, 1933.

Two opposite pathogenic conceptions have presented themselves for a long time past in the parodontosis problem. On the one hand, it is considered by one group as a purely local affection, starting from an infectious factor or from mechanical (faulty occlusion) factors. The other group insists on the systemic etiology. The true view-point is that both views have to be accepted, and that this disease is due both to local and general conditions operating at the same time.

Especially in Germany, a systematic medical examination of persons affected with parodontosis has been and is being carried on. A series of laboratory investigations has emphasized the necessity of such. In the hematologic examinations, a displacement of the formula of Arneth, and in the histologic investigations, an arrest in the development of the sanguineous capillaries in the mucous membranes, have been observed. The disturbances in the neurovegetative equilibrium have been brought in evidence through the adrenaline test, and endocrine functional disturbances appear to have a special importance. Undoubtedly, these disturbances explain the alterations that have been proved from a biochemical view-point: the lowering of the potassium-calcium relation in the blood, with modifications of the acid-base equilibrium.

Probably also an alteration of the hepatic function can play its part through the medium of the modified acid-base equilibrium.

To the acid-base equilibrium in the sense of an acidosis, Betti Rosenthal attributes the tumefaction of the parodontal tissues, which, suffering under a local acidosis, react to treatment with alkaline salts. Broderick and Hulin insist on the alkalosis, be it general or be it salivary, as its etiological factor; while Piatnitski, admitting an alkalosis state in the dystrophic forms and an acidosis in the inflammatory ones, contends that both modali-

ties of modified equilibrium will start a parodontosic disturbance.

Jung concludes that, although the general question has not yet been settled, both systemic and local treatments are necessary.

—*Copy.*

185—Merrifield, F. W., D. D. S., M. D.: **Diagnosis of diseases of the gingivae,** in: J. Am. Dent. A., xx: 277-283. 1933.

Mouth examinations should include a critical inspection of the mucous membranes, teeth and investing tissues, a knowledge of the general physical health of the patient and any personal habits which might cause injury to the gums and teeth. The symptomatology of various gingival diseases is described.

Simple gingivitis usually offers little trouble in diagnosis. Catarrhal gingivitis occurs in association with diseases of the upper respiratory tract. The differential diagnosis of Vincent's infection, pyorrhea and alveolar abscess is frequently confusing. Vincent's infection presents malaise and rise in temperature. Acute alveolar abscess is differentiated from peridental abscess by the presence of a pocket in the latter. The oral manifestations of scurvy, pellagra and sprue are discussed. The first signs of myelogenous leukemia may be seen in the gums.

The epulides are the most common of the neoplasms which involves the gums. Inflammation of the gingivae may occur during pregnancy.

Various diseases of the skin are associated with mouth lesions. Lichen planus, and pemphigus vegetans may be first seen in the mouth.

The author cites a type of gingivitis often mistaken for pyorrhea but unsuccessfully treated as such. It depends neither on mouth hygiene nor dietary conditions and presents inflammation of gingival crests with no detachment of the peridental membranes. The culture yielded an unidentified streptobacillus.

186—Merritt, Arthur H., D. D. S.: **Chronic desquamative gingivitis,** in: J. Periodontology, iv(1): 30. Jan., 1933.

This is a rare form of gingival inflammation which is generally unrecognized. The most characteristic symptom is a sloughing off of the epithelial covering leaving a raw and sensitive surface. It is always limited to the gingiva and adjoining gum tissue and does not involve the gums where teeth have been extracted. The cause is unknown. Medication affords mild relief in early cases, none at all in severe cases. Tooth extraction clears up the trouble, and the only solution short of this is gum resection with removal of the affected part. If no other disease is present new gum tissue will grow in leaving hardly any trace of the operation. If there has been severe periodontoclasia, however, extraction of the teeth may be the only remedy.

—*J. G. O.*

187—Merritt, Arthur H., D. D. S.: **Early symptoms of periodontal disease,** in: J. Am. Dent. Hyg., vii:(10): 20-21. Oct., 1933.

The first symptom of periodontal disease is change in the color of the gingiva. Any departure from the normal pink is a diagnostic sign. Another symptom is change of form. The gingivae should terminate in a thin knife-like edge and hug the teeth tightly. A change of position of the gingivae is a third departure from the normal to be observed. The gingivae should fill the embrasures between the teeth.

188—Neale, A. Victor,: **Some relationships between blood disorders and dental diseases,** in: Brit. Dent. J., liv(12): 636-646. June, 1933.

A detailed account of those blood disorders which manifest symptoms in the mouth. The article includes a discussion on pernicious anemia and achlorhydric microcytic hypochromic anemia, a type of disorder which occurs most frequently in women between the ages of 30 and 50 years and is essentially a type of chlorosis or a defective amount of hemoglobin in the red blood corpuscles.

Anemia, septicemia, pyaemia and infective diseases of the heart may arise from foci in and about the teeth due to the absorption of toxins. Oral sepsis is considered an important factor in the control and treatment of pernicious anemia.

189—Parturier, G., Pont, A.: **Foie et lesions gingivo-dentaires.** The liver and gingivo-dental lesions, in: Presse Med., xli: 601-603. 1933.

"The study of the condition of the liver is incomplete if it neglects the examination of the mouth and teeth . . . From a dental viewpoint one can say that fifty out of a hundred of a group suffering from dental disorders present to some extent symptoms of hepatico-biliary disorders." This statement results from clinical observations.

Oral conditions may influence the liver. Dental lesions resulting from mechanical and infectious sources play an important role. Improper mastication may result in alimentary troubles affecting the liver. Oral infections may throw their germs into the blood stream thus affecting not only the liver but also the entire alimentary system. Furthermore, various dental materials are conducive to hepatic disorders. An excess of mercury in amalgam fillings is toxic.

Various hepatic disorders may influence the condition of the teeth. Upsetting the calcium metabolism frequently occurring in liver disorders will obviously have an effect upon the constitution of the teeth. The surrounding tissues of the teeth may be weakened and bleed easily in hepatic disorders. A tendency towards hemorrhage is symptomatic of hepatico-biliary disorders and can be a source of grave danger to the dental surgeon.

Concerning acute congestive eruptions: "The gingivo-buccal eruptions of a congestive nature that we see may therefore be perhaps explained by facts of local allergy, perhaps in a phenomenon of general allergy . . . and through which the humoral equilibrium, doubtlessly menaced by an endocrine disturbance of the vegetative nervous system, is disrupted." That which provokes this localization of the anaphylactic shock is the contact of certain foreign bodies or perhaps pathological changes.

Various abusive therapeutic measures directed against hepatic maladies may be extremely injurious to the dentition. Listed as such are morphinomania and certain dietary restrictions.

Conclusions in brief:

1. The physician called to treat an hepatic disorder must never neglect to examine the teeth and mouth and should take precautions not to prescribe therapeutic measures harmful to the teeth (such as a diet lacking in calcium).

2. The dentist should take pains to dress wounds aseptically in all cases, especially so when the complexion, eyes and history of the patient indicates a hepatico-biliary condition. The use of toxic substances should be avoided (amalgam). The choice of anaesthetic should be the least toxic. If extractions are necessary all precautions against hemorrhage should be taken.

190—Query: **Recurrent herpes simplex,** in: J. A. M. A., ci(24): 1902. Dec., 1933.

Query regards painful fissures on tongue of man twenty-six years old, following the appearance of vesicles. Tongue is not dry or rough; blood, urine, and gastric analyses are normal; eye, ear, nose, and throat have been checked, as well as teeth. Usual alkaline astringent, antiseptic washes have given only temporary relief, new fissures continue to form. In answering the editor advises to make radiograms of the teeth for focal infection. The alkaline wash should be used gently with no scrubbing. Patient should use magnesium magma twice daily. When ulcers or fissures appear each should be touched with 5% chromic acid or crystal silver nitrate. Diet should be bland and excessive use of fruit avoided. Magnesium magma and compound mixture rhubarb and soda, taken internally enough to cause mild loosening of the bowels, may be useful. Diagnosis is recurrent herpes simplex.

191—Roy, Dr. M.: **Les formes cliniques de la pyorrhée alvéolaire.** The clinical forms of pyorrhea alveolaris, in: L'Odontologie, lxxi: 433-457. 1933.

Alveolar pyorrhea is defined as "an autonomous disease, under the dependence of arthritic diathesis, and characterized by a precocious senile alveolar resorption due to an upset in the general constitution of individuals, that may or may not be accompanied by the formation of gingivo-radicular culdesacs, which involve the consecutive development of suppuration, calculus and all the other local symptoms of the disease."

An arbitrary classification of pyorrhea based on the clinical aspects of the disease is presented. The malady is divided into two great classes, pyorrhea with and without pockets. The former is subdivided into common, hyperemic and ischemic forms; the latter into a pyorrhea without pockets due to absence of local causes, juvenile atrophy,

pyorrhea without pockets with movement of the teeth through laxity of the paradentium and deformatory pyorrhea.

Under the common form are described the clinical aspects so commonly encountered in the practice of periodontia, i. e., gingivitis, alveolar resorption of all the teeth, calculus, suppuration, pocket formation, movement and exfoliation of the teeth. The hyperemic form presents as its salient feature an hyperemic gingivitis, persistent suppuration, fetid breath and numerous fungi. It resists treatment. The ischemic form is featured by a paleness of the gingivae despite the existing gingivitis. The fungi are less numerous and the pockets are limited circumferentially. This type yields to treatment.

Pyorrhetic types without pockets occur as a result of the gingival tissues following the progress of alveolar resorption. In pyorrhea without pockets through absence of local causes there is an absence of gingivitis due to rigorous use of the toothbrush and the gums automatically follow the course of the recession. Continued use of the brush and a dentifrice will result in cuneiform erosion and sensitivity of the denuded roots. This will not result when a hard brush is used without any dentifrice.

Juvenile atrophy is an adolescent disease characterized by alveolo-gingival resorption of the buccal surfaces of all the teeth with no mobility. The author correlates this atrophy to the appearance of the genital hormones during the period of adolescence.

In pyorrhea without pockets with movement of the teeth through laxity of the paradentium there is marked alveolar resorption due to osteoporesis (widening of the haversian canals).

(A discussion of the paper follows on pages 492-500.)

192—Ruppe, C., Dr.: **Acquisitions récentes sur les infections focales d 'origine bucco-dentaire,** Recent acquisitions concerning focal infections of bucco-dental origin, in: Sem. Dent.: 168-173. 1933.

The various dental foci, latent and determining are discussed, the manner in which they spread, the active secondary foci and the causal relationship between the two foci.

Recent work is antagonistic to Rosenow's claim that the non-hemolytic streptococcus viridans, is the agent of focal infection of dental origin. Rather does it stress the importance of the strepto-enterococci, which is non-hemolytic and has filterable forms. Secondary flora include some fusiform bacilli which are almost impossible to isolate and usually occur in associated forms of a fuso-spirillar nature. Achalme's bacillus is often found in dental lesions.

Clapier pyorrheique seems to show a mixture of flora. Vincent, on this ground, claims that pyorrhea is a secondary and not a primary local infection. The flora of the granuloma is usually poor in species. The strepto-enterococci are usually present.

Processus pyorrheique provides a good medium for the growth of germs in its numerous lesions. These germs can penetrate into the organism in two ways, exogenous (by pyophagic means), and endogenous (by absorption through the blood and lymph channels.)

Recent work indicates that the American contention of the toxicity of the granuloma as a focal center is not the last word on the subject. Many sterile granulomas have been found.

The metastatic manifestations of the focal infection show themselves principally in chronic articular rheumatism, ocular, cardiac, renal and gastro-intestinal infections. These wide manifestations, according to Rosenow, Precht, Haden and Messner, indicate the lack of a specific tropism of the microbes of dental origin.

It is granted by most authorities that there is a primary relationship between bucco-dental septicemia, rheumatism, ocular infection (iritis), and gastro-duodenal infections. In renal infections dental septicemia plays an aggravating rather than a determining part.

Two criteria exist, one bacteriologic, the other therapeutic, in establishing the causal relationship between bucco-dental foci and secondary maladies. The bacteriologic problem can be solved by finding the same germ in the original and secondary lesion. The therapeutic proof is complete only if the metastatic manifestation is treated simultaneously with the dental focus.

—*G. H.*

193—Sergeant and Laugier: **Stomatite apres avulsion dentaire, signe revelateur d'une leucemie aigue.** Stomatitis after dental extraction, evidence of an acute leukemia, in: Rev. de Stomat.: 1-4. 1933.

The authors report the case of a soldier who developed a stomatitis following the extraction of an upper left canine. The postoperative hemorrhage was rebellious. Within eight days the upper right molar became painful and ulcerative gingivitis had set in. Antigangrenous treatment was instituted. Blood count showed an acute leukemia despite the presence of only buccal symptoms. Prostration, fetid breath, buccal hemorrhage, loose teeth, high temperature, were followed by diarrhea, vomiting and death in 24 days.

Acute leukemia may originate through a stomatitis accompanied by fever and weakened general condition without the appearance of the usual adenopathies and splenomegalia but only with buccal manifestations. The importance of taking blood tests in stubborn cases of stomatitis is indicated.

—*G. H.*

194—Smith, M., D. D. S.: **Vincent's infection,** in: J. Am. Dent. A., xx: 1264-1268. 1933.

Under a discussion of symptoms and diagnosis a table for the differential diagnosis of Vincent's infection, diphtheria and syphilis is given. Bacteriological findings afford a positive diagnosis.

Various local medicinal treatments give good results and several are suggested. Surgical treatment consists of reducing the fusospirochetal organisms to a minimum and then eliminating the pockets of necrotic tissue. Systemic treatment includes intravenous injection of sulpharsphenamine or sulpharsphenamine intramuscularly, and dietary regulation.

—*G. H.*

195—Spies, T. D. and De Wolf, Henry A.: **Association of pellagra and Vincent's infection,** in: J. A. M. A., ci(26): 2057. Dec. 23, 1933.

A report of the study of six typical cases of pellagra with stomatitis and glossitis. Repeated smears of the mouth and in two instances of the vagina showed a conspicuous number of spirochetes and fusiform bacilli as well as a predominance of these two organisms. Patients were placed on a restricted diet of water and 500 gm. or more of autoclaved yeast; lesions promptly remitted, subsequent smears showing greatly decreased number of organisms. The clinical significance of these observations is shown to be important in that two patients confined to a hospital for contagious diseases while being treated for severe Vincent's infection were found by consultants to have extensive lesions of pellagra. In discussing the report Joseph L. Miller stated that H. Gideon Wells studying the etiology of ulcers in the buccal cavity finds that fusiform and spirilliform baccilli are always secondary invaders, not responsible for the lesions but finding in them a suitable place for their development.

—*C. R.*

196—Tellier, J., and Beyssac, P. (Lyons): **La septicite bucco-dentaire et les malades du sang,** Bucco-dental septicity and diseases of the blood., in: Annales Belges de Stomat.: 1-15. Jan., 1933.

Certain anemias of the cryptogenetic type may be of bucco-dental origin. These affections are produced by toxic agents acting on the marrow or reticulo-endothelial system. Myeloid leukemia is very often the result of a buccal infection (Bouveret). There also seems to be a relation between disorders of the organs taking part in plasma production and infections of buccal origin. It is a common fact that any infection can lead to an unbalance between the normal equilibrium of coagulants and anticoagulants and to hemorrhagic syndromes. Bucco-dental septicity may lead to anaphylactic phenomena. The story of focal infection from dental sources is a common one. It is, therefore, necessary that whenever an infectious state is present whose cause is not immediately recognized one should look for the origin in the buccal cavity and neighboring tissues.

Various types of laboratory and office tests to determine bleeding and coagulating times, are presented as is a short discussion of the bleeding types one commonly meets.

—*G. H.*

197—Tempestini O.: **Paradentiopathy in relation to tuberculosis,** in: Stoma., xxxi: 4-23. June, 1933.

(Magazine not available).

198—Wielage, M. F., D. D. S.: **An original classification of pyorrhetic lesions to be used in surgical intervention,** in: Intn'l J. Orth. and D. for C., xix: 1059-1061. 1933.

The author presents charts illustrating Belater's classification of pyorrhea pockets by dividing the tooth roots into four concentric circles which are in turn divided into quadrants. Thus the practitioner is able to accurately chart the location of individual pockets. An original chart is presented which projects the involved areas as determined radiographically.

—*G. H.*

(f) Treatment

(Continued from iv(2): 225. July, 1933)

263—Albright, George C., D. D. S.: **Sodium perborate: Its uses in the mouth (in "trench mouth,") and throat,** in: D. Cosmos, lxxv(1): 91. Jan., 1933.

The properties and uses of sodium perborate are fully explained in this article, along with the method of administration.

When water is added to sodium perborate a nascent or free oxygen is liberated in the proportion of about 9%. This free oxygen acts as a most potential germicide, antiseptic and deodorant. Sodium perborate is alkaline in its reaction, and neutralizes the acids which are factors in tooth decay. It is non-toxic and non-caustic.

The spirochete of Vincent is anaerobic and is almost instantly destroyed by the free nascent oxygen which is liberated when sodium perborate is put into solution and brought in contact with the infected tissue.

In treating Vincent's infection either a paste should be forced between the teeth or a wash should be made by dissolving one teaspoonful of sodium perborate in a glass of luke warm water, to be used at intervals of two hours as long as needed.

264—Ausch, Dr. Richard: **Eine neue Bestrahlungs Therapie der Paradentose und Trigeminus-Neuralgie.** A new irradiation therapy of paradentosis and trigeminal neuralgia, in: Zeitschr. f. Stomat., xxxi: 1495-1500. 1933.

The use of the cold quartz lamp, an application of ultra-violet irradiation is recommended. Its advantage is that it can be brought directly into contact with the gum tissue, and can act on it without danger of over-exposure or of deleterious after effects.

In most cases the result is a very rapid tightening of the teeth in their sockets, more so than by other methods. The chief cause is the hyperemia and increased blood circulation brought about by the irradiation.

Its use after alcohol injection in trigeminal neuralgia may be indicated.

This lamp is not a universal remedy for paradentosis, but is very beneficial when used with other methods of treatment.

—*J. G. O.*

265—Barkann, Lillian, D. D. S.: **Nupercaine in periodontia,** in: D. Cosmos., lxxv(6): 580-582. June, 1933.

This report was made entirely from clinical observations. The technique used for nupercaine anaesthesia is as follows: Into a dapper dish place about 20 drops of a 2% solution of nupercaine. To this is added sufficient saturated solution of sodium bicarbonate (3 to 4 drops) to turn the mixture milky white. Dryness is maintained in the mouth as well as possible. "Then long wisps of cotton saturated with the white mixture are placed along the gingivae lingually and labially on the lower jaw, also palatally and labially on the upper jaw. Saturated pellets are inserted into spaces between the teeth." If the mouth is kept dry, eight or ten minutes will suffice for the larger pellets while the smaller interproximal pellets may remain until these areas are reached.

—*M. S. W.*

266—Barnhart, H. M., D. D. S.: **Technical procedures in the treatment of periodontoclasia by instrumentation,** in: Pac. D. Gaz. and J., xli: 94-97. 1933.

Local conditions may be ameliorated by a local method of procedure but a permanent cure may not be effected. Systemic conditions should be considered and in some cases conservative surgery may have to be resorted to.

Removal of calculus is not enough. The root surface must be smoothened and cleaned of all peridental membrane fibers. The author recommends the sickle for removal of bulky approximal deposits on lower anteriors, the plane for general use, the file to smoothen root surfaces and overhanging fillings, and the curette for delicate work.

Scaling of one area of the mouth should be completed before going on to the next and every area should be rechecked by transillumination. Any pockets present should be

packed with sodium sulphide preparation to dissolve the epithelium, then curetted and sealed.

The presence of large numbers of Vincent's organisms is reported in nearly all pyorrhetic mouths. Therefore, every pyorrhetic mouth is treated as a Vincent's case just before dismissal. The treatment is the usual Vincent's —chromic acid, hydrogen peroxide followed by salvarsan in glucose solution.

267—Belding, P. H., D. D. S. and Belding, L. J., M. D.: **The treatment of chronic specific gingivitis,** in: D. Items of Int., lv(4): 256-258. April, 1933.

It is the belief of the writer that the fusospirochete is the etiological agent responsible for pyorrhea.

The procedure of treatment is as follows: Fowler's solution is applied topically before and after instrumentation. The patient is instructed to apply the Fowler's solution and also a bismuth paste devised by the authors to his gingivae twice daily. In those cases where the patient shows a high count of leptothrix and pyogenic cocci a 4% solution of $CuSO_4$ is applied cautiously.

—*M. S. W.*

268—Bell, Dickson G., D. D. S.: **The pathologic pocket and its treatment by instrumentation,** in: J. Am. Dent. A., xx(1): 129-133. Jan., 1933.

First, the writer urges a comprehensive knowledge of what constitutes a normal gingiva and just where and when pathologic change begins.

A normal sulcus or normal pocket is described. (The depth of a normal gingival sulcus is considered "ideal" if it is less than 1 mm.)

Clinical observation has taught that a pathologic pocket can arise from two different processes:

1. Local,—such as calculus, food débris and mechanical injuries.

2. Systemic attacks as, occupational disease, vitamin deficiencies and metabolic disturbances. As a result, the tissue resistance to infection is lowered and a secondary inflammation occurs. This in turn, leads to destruction of the epithelial attachment and deepening of the pocket. Clinical experience seems to show that it is possible, by proper instrumentation, to obtain an attachment of the soft tissues to the surface of the cementum and, in many cases a regeneration of the alveolar bone.

Treatment of the pocket consists first in removing all of the calculus to the bottom of the pocket.

There are very few, if any cases in which curettage of the root surface will not at the same time sufficiently break up the epithelial lining of the vascular wall. This is almost inevitable. Caustic agents are not advised. The important part which the blood plays during the instrumentation and healing of the pocket has been overlooked by many clinicians. T. Sydney Smith describes this fully.

Occlusal trauma should be corrected at two different periods: before and after treatment. Polishing of crowns and root surfaces should never be attempted before the tissues have completely healed. The importance of interproximal polishing cannot be over emphasized. Success or failure of the treatment of a pathologic pocket depends to a large degree on the coöperation of the patient. It is our responsibility to teach them how to care for their teeth.

A special plea is made to the family dentist to suspect the presence of disease in every adult mouth.

—*S. R.*

269—Breitner, Carl: **The effect of opening the bite by means of a bite plate,** in: Zeitschr. f. Stomat. Oct., 1932; Abs. Brit. D. J., liv: 355-56. 1933.

See Journal of Periodontology, iv (2). 123-125. July, 1933, Abstracts 39 (c) and 40 (c).

270—Bryan, A. W., D. D. S.,: **Pyorrhea,** in: Iowa D. Bull., xix(6): 165-171. Dec., 1933.

Diet is an important factor in obtaining results in the treatment of pyorrhea (periodontoclasia) and has not been sufficiently emphasized. Howe, McCollum and others have proven the effect of a lack of vitamins and mineral salts on bone and gingival tissue and have reported that when vitamin C is lacking the capillary circulation in the gingivae breaks down and a condition of swelling and enlargement results in these areas.

Observations show that a lack of vitamins and mineral salts lowers the general health of the patient.

271—Buck, Wesley V., D. D. S.: **Surgical treatment of pathologic periodontal pockets,** in: D. Digest, xxxix(8): 299-301. Aug., 1933.

The procedure of treatment of pathologic periodontal pockets is summarized as follows:

1. The loose gum which is ulcerated on its pocket surface is anaesthetized either locally or with block anaesthesia. This tissue is then trimmed away to the depth of the pocket.
2. The alveolar process is smoothed with curettes.
3. The denuded area is packed with a sedative dressing which is left on for at least ten days.
4. The packing is then removed and the root surfaces polished.
5. Any occlusal traumatization is removed.
6. The patient is then instructed to chew gum for half-hour periods until toothbrushing can be resumed.

Illustrations showing procedure are included.

272—Cleaveland, H. H., D. D. S.: **Opportunity neglected** (Incidents in office practice), in: J. Periodontology, iv: 95-96. Jan., 1933.

Due credit should be taken by the periodontist for any benefit received by treatment, and he should not, through false modesty, allow the patient to ascribe the cure to some miraculous power of a mouth wash or tooth paste.

—*J. O.*

273—Dement, R. L., D. D. S.: **Traumatic occlusion,** in: Bull. North Carolina D. Soc. Aug., 1933. Abs. D. Outlook, xx(12): 535. Dec., 1933.

Since it takes five millimeters of wear in the region of the central incisors to compensate for one millimeter of wear in the region of the third molar, it is advisable to begin adjusting of the occlusal relationship with the six anteriors and gradually work back to the posterior teeth. Relieving the stress in centric occlusion first, then in eccentric occlusion. There is comparatively little pressure exerted in eccentric occlusion, but in centric occlusion some investigators have estimated that the average person exerts from one hundred and fifty pounds, or more, in the region of the anterior teeth, to three hundred pounds, or more, in the region of the third molar, so the injury to the periodontium, where traumatic occlusion exists, in centric occlusion. is much greater and should be very thoroughly balanced.

In relieving occlusion in the anterior, where the posterior teeth are present, and with a normal over-bite, there should be enough space, or over-jet, between the upper and lower teeth, when the arches are brought together in normal centric occlusion, to pass a strip of ordinary writing paper without tearing. On the various cursive movements of the mandible, if possible, relieve all tripping of anterior teeth. In grinding the anterior teeth all of the spot marked by the articulating paper is ground, while in the posterior of the mouth, the grinding is done, as a rule, on the margin of the marks and in a way to relieve binding of flat surface against flat surface. In other words, we endeavor to restore the normal contour of the cusps or occlusal surface and produce an easy, harmonius action in mastication.

After adjusting the relationship as closely as possible in this way, with ordinary pink base plate wax, softened slightly with hot water, have the patient bite into it, using quite a bit of pressure. Where the teeth are striking hardest, the wax will be perforated, then by checking back with thin articulating paper, these spots may be marked and by checking spots with wax, we may determine exactly where to polish for a complete finishing of the case. —*Copy.*

274—Dement, R. L., D. D. S.: **The surgical treatment of periodontoclasia,** in: J. Am. Dent. A., xx: 993-997. 1933.

A discussion and evaluation of the various technics employed in the surgical treatment of periodontoclasia is presented. The conservative method of subgingival curettage is highly effective in many of the less severe lesions. The more radical procedures are used only when the conservative procedure is deemed insufficient.

A modified flap operation is recommended. This is essentially similar to the full flap operation except for omission of the lateral incisions. The procedure possesses the advantages of visibility of field, use of every available portion of healthy process in regeneration, as nearly a normal gum line as is possible and little trauma. The technic of the modified flap operation is described.

275—Farner, Jung, Jaccard: **Directives pour le traitment de la paradentose.** Directions for the treatment of paradentosis by the German A. R. P. A., in: Schweiz. Mschr. Zahnheilk., xliii: 230-244. Mar., 1933.

General information—

1. Treatment can not be permanent if it is limited to groups of teeth, the isolated paradentium, or several symptoms. It must take into consideration the entire masticatory apparatus.

2. Since chronic gingival infections of youth (catarrh of puberty) and occlusal disturbance are predisposing factors of paradentosis the dentist and physician should act together especially in cases where predisposition to dental caries is evident.

3. In many cases extraction and restorative work are indicated. The patient should be informed of the situation.

Observations should be systematically recorded—

1. Local anatomical conditions
   Irritating factors, pockets, gingival margins, radiographic examination.
2. Local functional condition
   Occlusal examination.
3. General medical examination.

Dental treatment of paradentosis—

1. Local treatment
   Elimination of predisposing factors. Elimination of pockets by surgical means. Stimulate circulation.
2. Mechanical relief
   Correction of occlusion and masticatory relief.
3. Internal treatment of paradentosis
   Treatment of co-existent general diseases.

Cooperation of patient—

The patient should be instructed how to maintain his oral health once it is established. Periodic treatment and examination are necessary.

Systematic curettage of pockets and medication are effective in cases of horizontal atrophy of the bone with presence of pockets under 4 mms. Gingivectomy is indicated in cases of horizontal atrophy where the pockets are deeper than 4 mms. The radical operation is indicated only in severe cases such as vertical atrophy with intra-alveolar pockets. Electrical stimulatory measures (diathermy, ultra-violet irradiation, etc.), give good results in increasing tonus of the periodontium.

The stresses of malocclusion must be corrected. Various methods of relief such as splints, grinding and raising of teeth are discussed.

276—Finzi, Dr. G.: **Pyorrhée alvéolo-dentaire et terrain endocrinien.** Alveolo-dental pyorrhea and the endocrine system, in: Semaine Dentaire: 1111-1114. 1933.

The author points to the association of alveolo-dental pyorrhea in women suffering from thyroid-ovarian-pituitary pluriglandular diseases. He cites the case of a woman suffering from typical neuro-arthritic symptoms, ovarian deficiency and general pyorrhea. On this basis the treatment of pyorrhea should be preventive and consist of a complete glandular examination including kidney, pancreas and liver. The medical treatment by no means contra-indicates the classical local therapeutic measures.

—*G. H.*

277—Fischel, E.: **Surgical treatment of metastases to cervical lymph nodes from intra-oral cancer,** in: Am. J. Roentgenol. and Rad. therapy, xxix: 237. Abs. J. A. M. A., c(22): 1807. June, 1933.

Fischel studied 190 cases from the Barnard Free Skin and Cancer Hospital and 50 private cases, every one of which had more or less radical surgical treatment. Significant facts deducted are that percentage of patients alive after 5 years on whom neck dissections were done before the glands were involved is much greater than that of patients in whom metastases of the cervical lymph nodes had previously been demonstrated. Surgery gives better results than any other treatment in case of proved metastases to lymph nodes.

278—Godfrey, Lois: **The vitamin B complex in health and dentition,** in: Angle Ortho., iii(3): 204-210. July, 1933.

Another of a series of articles dealing with diet in relation to dental health. Vitamin B is essential to normal growth, successful reproduction, lactation and to the maintenance of health. Although there is no direct evidence that vitamin B affects the dental tissues

one can assume that it does since it is so important to the general health. Some of the foods which are rich in vitamin B are dried yeast, rice polishings and wheat germs.

—*M. S. W.*

279—Godfrey, Lois: **Vitamin C in health and dentition,** in: Angle Orth., iii(4): 238-246. Oct., 1933.

A highly instructive report on the literature pertaining to vitamin C and the dentition. The author pays special attention to the importance of vitamin C in building up resistance to dental caries and pyorrhea. Vitamin C content is generally low in the average dietary. Considerable information is presented on the source of vitamin C and methods of preserving it in cookery and canning.

280—Haley, Philip S., D. D. S.: **Useful procedure in periodontia,** in: D. Cosmos, lxxv(9): 868-871. Sept., 1933.

A detailed description of a method of handling pyorrhetic pockets which has been proven exceedingly efficacious.

—*M. S. W.*

281—Hanke, Milton T. and Graf, J. P., M. D.: **Diet as an aid in the treatment of acute ulcerative gingivitis,** in: D. Survey, ix(5): 45-46-72. May, 1933.

Report on a case of acute ulcerative gingivitis. Patient was treated with the administration of a quart of orange juice per day, together with eggnogs and clear broth. Two intravenous injections of 0.3% neoarsphenamin were also given. Patient completely recovered within seven days.. The belief is stated that citrus fruit contains something antagonistic to gingivitis. That this may be vitamin C is not certain.

—*M. S. W.*

282—Hanke, M. T., *et al:* **Nutritional studies on children,** in: D. Cosmos, lxxv: 570-580, 635-43, 739-49, 933-46. 1933.

Studies were carried out over a two-year period at Mooseheart, Ill., on 340 children in excellent health, and pleasant surroundings. The children were observed for one year while ingesting a standard Mooseheart diet equivalent to that used in the average American home. The same children were observed for another year while they were fed sixteen ounces of orange juice and the juice of one lemon in addition to the standard diet.

Gingivitis, which had developed in the mouths of three-fourths of the children during the first year of observation, disappeared during the second year when citrus fruit juice was included in the diet. In cases where no citrus fruit juice was added to the diet during the second year no spontaneous disappearance of gingivitis occurred. No local irritating factors that might have caused the gingivitis were removed. Where subgingival calculus was present the gingivae receded and became healthy.

The use of orange and lemon juice as an aid in the treatment of gingivitis is advocated.

A method of classifying gingivitis according to its symptoms by means of color photography as an auxiliary to oral inspection is described.

—*G. H.*

283—Hanke, Milton T., *et al:* **The value of orange and lemon juice in the control of dental caries and inflammation of the gums and as a stimulus to body growth,** in: Intn'l J. Orth., xix (6): 642-655. June, 1933.

Report of experiments carried on at Mooseheart, Ill., with children, same as in Abstract 282(f).

The addition of 1 pint of orange juice, and juice of one lemon per day to the regular diet at the institution produced an almost complete disappearance of gum inflammation, a 50% reduction in the incidence of dental caries and an acceleration in the rate of growth.

The lessened incidence of caries may be due to the general improved tissue health and the increased rate of growth.

—*M. S. W.*

284—Haubach, Dr. Karl-August: **Ultraviolett-Behandlung bei Paradentose.** Ultra-violet treatment in paradentosis, in: Z. Rdsch. xl: 1845-1847. 1933.

The intraoral ultra-violet irradiation of the oral tissues stimulates the circulation of blood and thus increases the tonus of the tissues, and it also stimulates the metabolism of the diseased cell. Except in advanced cases the effect on loosened teeth is to fasten them

more firmly in their sockets. Overdoses are warned against due to danger of harm to the patient. The epithelium of the mouth endures considerably higher doses of ultraviolet rays and at a shorter distance than does the outer skin.

—*J. G. O.*

285—Hruska, Dr. Arthur: **Über Replantation von Paradentosekranken Zähnen.** Replantation of teeth of paradentitis diseases, in: Z. Rdsch. xl: 1127-1131. 1933.

Replantation of teeth in cases of paradentitis is discussed and is viewed in a very favorable light. The periodontium is removed, the tooth cleaned and laid in a bath of Trypaflavin, coating the moist tooth immediately before insertion in Trypaflavin powder. Thus a considerable amount of Trypaflavin is brought into the alveolus and into contact with the tissues, and so acts as a lasting antiseptic. The tooth is held in place by small metal bands, a very simple procedure giving considerable stability. The root is cemented into the canal. A number of cases showing excellent results are cited.

—*J. G. O.*

286—Jahn, Georg.: **Haemon bei der Behandlung der Paradentose.** Haemon in the treatment of paradentosis, in: Zahnä. Rdschau., xlii(1): 37-38. Jan., 1933.

It has been pointed out for some time that after alkalization of the tissues complete healing of paradentosis ensued and finally the diseases came to a standstill. "Haemon wound balsam" is suited to both prophylactic and therapeutic ends; it consists of extract of hamamelis and tincture of arnica combined with suitable antiseptics. Its use is recommended in paradentosis to follow the removal of calculus.

—*Transl., H. A. R.*

287—James, A. F., D. D. S.: **Conservative treatment of periodontal diseases,** in: J. Am. Dent. A. June, 1933. Abs. D. Record, liii(10): 494-95. 1933.

A dentist can never presume nor hope to treat periodontal disease until he has developed and mastered a technique for thorough prophylactic treatment.

Prophylactic treatment is a failure until the patient returns at subsequent sittings with all exposed tooth surfaces free from mucin or plaque formation (including exposed root surfaces where there has been alveolar bone absorption and gum recession), showing no irritation of the gum margin and with the gum margin thin and lying firmly against the tooth surface. The next step is to determine how long the patient can maintain this condition with the gum massage and home care that he has been taught.

When a thorough prophylactic result is obtained the oral bacterial growth has been reduced to a minimum. If there has been formation of periodontal pockets, the surgical care of the root is a simple thing. It consists in the removal of all serumal deposits and the making smooth of the cemental surface that is rough enough to resist the blade of the plane. As a result of this surgical stimulation, the overlying gum which has formed a pocket will react in such a way that it will hug the root surface. Thereafter, the patient must massage this overlying gum by squeezing it; which will cause the circulation to improve and increase the resistance of the gum tissue. Continued massage will make the gum recede to a point where there is alveolar bone attachment, and the pocket will be obliterated just as effectively as by any possible cutting operation.

Where there has been alveolar bone resorption, wide open interproximal spaces resulting and many dental restorations required, the mouth is dentally crippled. Such a case must have the care of the periodontist at regular intervals for the rest of the patient's life or as long as the teeth can be saved.

Failures are seen in every type of dental endeavour, and the periodontist has backsliding and careless patients in spite of his attempts at teaching home care and the patient's responsibility. Continued effort of the periodontist to teach will finally yield encouragement in the fact that he is becoming a better teacher. The reward will be fewer backsliding patients and a greater number of successes in his practice.

The successful periodontist has become so skilful in the delicate operation of smoothing root surfaces that it is a matter-of-fact sort of thing and the temptation is to believe that all dentists do the work equally well. This is not true; there is no operation in dentistry that requires finer skill or a more delicate manipulation of instruments.

288—James, Austin F., D. D. S.: **Some clinical phases of nutritional problems,** in: J. Periodontology, iv(1): 48. Jan., 1933.

Little has been definitely proven about the relation of calcium, phosphorous, and vitamin C in the diet and either dental caries or gingival disturbances. However, the cases cited show marked and lasting results by increasing vitamin C in the diet in all forms of gingival disturbances that are not obviously due to mechanical or unhygienic complications. Improvement in oral conditions here goes hand in hand with general systemic betterment.

—*J. G. O.*

289—Hassel, H. C., D. D. S.: **Diagnosis and treatment of periodontoclasia,** in: D. Cosmos, lxxv: 484-487. 1933.

No case of periodontoclasia would ever occur without one or many of the local causes which are projected through an unbalanced tissue nutrition. Many cases of pyorrhea can be relieved without tooth loss if one remembers that gingivitis often becomes a destructive pyorrhea. It is unwise to wait for the presence of pus before treatment is instituted. The establishment of a balanced nutritional state, oral sanitation and subgingival curettage coupled with packing pockets with phenol is usually effective.

290—Kaiser, Frank, D. D. S.: **Gingival resection method of treatment of periodontoclasia,** in: J. Am. Dent. A., xx: 985-990. 1933.

The resection method has been termed radical. Extraction is more radical than resection. The principal factor in any method is the thoroughness with which it is carried out. When time is not an important factor in the disease subgingival curettage may be the method of choice.

Preoperative treatment is especially necessary in the event of systemic involvement and will exclude many postoperative difficulties such as dry sockets and toxic fevers. The Vastine method of reducing gingival flora is employed. When ½ of the original number of organisms is reached the time is opportune for surgical procedure. The author favors the hospitalization of the patient including a thorough physical examination and preoperative medication. The operative technique is described in detail as is the postoperative treatment. The operation involves curetting of the bone and cementum, trimming alveolar crests and removal of all pathological tissue.

291—Kaiser, F., D. D. S.: **The role of surgery in periodontia,** in: Pac. D. Gaz., xli: 478-484. 1933.

There are three different techniques for the surgical elimination of the gingival pocket: first, the dissection or flap method, which can be further subdivided into the conservative and radical; second the resection method, which can be subdivided into different techniques according to the manner of approach—according to the Ward or Black method; and third by extraction of the teeth themselves or alveolectomy. The author describes and differentiates the techniques.

"In order to use any of the surgical methods one must also understand the other techniques so that he will be able to finish the case properly." Surgical intervention is indicated when time is short and the elimination of the focus of infection is necessary to forestall aggravation of systemic involvement; and when palliative measures fail. The technique is secondary to elimination of the focal point.

The promiscuous grinding of teeth is condemned before any work has been done on the hyperemic condition of the peridental membrane since loss of valuable tooth structure can never be restored by nature.

General anesthetics are not recommended inasmuch as considerable hemorrhage results from their use. The author suggests the hospitalization of the patient. Relaxation is induced by means of preoperative medication and quiet. Novocain is employed as the anesthetic. The ideal technic is a combination of all where indicated.

292—Kiefer, E.: **Paradentosenbehandlung mit besonderer Berücksichtigung der Entlastung,** in: Brit. D. J., liv: 147. 1933.

Dr. Kiefer has extended into a monograph suggestions which, for the most part, are not original. The idea of relief of traumatic occlusion for the treatment of parodontoses dates back over the last quarter of a century. To balance the occlusion in the manner here suggested by means of bridges, crowns, etc., gives rise to conjectures as to the wisdom of

such treatment in mouths already affected with parodontal disease. Stress is placed on the necessity that such prosthetic interference should serve not only to fix the teeth, but should also relieve the load on them. All the many means to correct diagnosis should be employed to discover whether the condition presented is due to local or general disease, and treated accordingly, and particular attention should be given to the occlusion of the teeth to discover any flaw in its balance which may be responsible for, or a contributory factor to, the continuance of the oral disturbance. (112 pages, 65 illustrations.)

293—Kiltz, Dr. Heinrich: **Behandlung der Gingivitis und Paradentitis mit L. P. C. Pyocid.** Treatment of gingivitis and paradentitis with L. P. C. Pyocid, in: Zeitsch. f. Stomat. xxxi: 273-275. Feb. 1933.

The author recommends the use of L. P. C. Pyocid for cases of gingivitis and paradentitis. According to the manufacturer, it consists of carvacrol, chlorcarvacrol and carvochinonen, dissolved in pure alcohol, with camphor and oil of Eucalyptus added, of which the chlorcarvacrol is the effectual agent. It is a necessary perquisite that all mechanical irritants be first removed by curettage. Next follows washing by hydrogen peroxide. Cotton rolls are suitably placed and the area dried. The medication is applied into the pocket and onto surrounding tissues for six to eight minutes. This is repeated at intervals of two or three days. The author has found two or three treatments enough for cases of gingivitis, though the more severe paradentitis requires as many as eight or ten. The permanence of the result depends, of course, on deeper underlying conditions. The remedy has been found of help in cases of extraction and fistulous teeth.

—*J. G. O.*

294—Köhler, L.: **Beitrag zur Behandlung Paradentischer und ulceröser Zahnfleischerkrankungen mit Paraffinverbänden.** Contribution to the treatment of paradental and ulcerated oral diseases with paraffin dressings, in: Z. Rundsc.: 811-814. 1932. Abs. Deutsche Monats. f. Z., li: 417. 1933.

The goal of the local treatment of paradentosis and pyorrhea is: (1) creation of hygienic relations in the region of the epithelial deposits; (2) functional release of the locked teeth articulations; (3) medication and surgical treatment of pockets, with the purpose of producing a healing over of the ulcerated surface; (4) regular supervision of the teeth for early recognition and treatment by Rezidiven. The paraffin dressing, after Dunlop, Gottlieb and Orban, requires an unusual manual skill in application, and hinders the patient in chewing, in that it falls out easily. For that reason a new method of paraffin dressings is recommended. After an exact impression a celluloid band is made up, after gross cleaning of the teeth and drying with Eumydrin (I. G. Farben), this is covered with Dunlop-paraffin and pressed over the teeth. The band must only reach to the premolar region in order not to contract the bite too much, and must be placed only on one jaw. When, on insertion, the band does not press far enough into the tooth pocket, this can be filled with a paraffin spray. The margin of the band must be so positioned that no unnecessary pressure is placed on the sound gingivae. It is possible to allow medicine to act on the tooth tissues for a longer time by means of this band. The normal application time is 2-3 days.

—*J. G. O.*

295—Lavroff-Zernoff, Dr.: **Contribution à l'étude du traitment de la pyorrhée alvéolaire par les rayons ultra-violets.** Contribution to the study of the treatment of pyorrhea alveolaris by ultra-violet rays, in: Semaine Dent.: 413-418. 1933.

Three cases of pyorrhea are cited. In each case surgical treatment was followed by ultra-violet radiation. The results were gratifying in each case. Conclusions:

1. Ultra-violet radiation properly employed is not injurious if hypersensitive subjects are not used.

2. A general amelioration of buccal conditions and tissue sanitation results.

3. In cases of simple pyorrhea with no systemic complications, tissue regeneration, disappearance of pus, cessation of osseous resorption, etc., follows after radiation.

4. In advanced cases, radiation is generally helpful and produces a sterilization of the tissues.

5. Cases of complex etiology where profound systemic involvement occurs, or subjects hypersensitive to radiation resist actinotherapic treatment.

—*G. H.*

296—Lindblom, Gosta: **Balanced occlusion and its importance in the treatment of marginal paradentitis,** in: Tandlæ Gebladet: p. 71. Feb., 1933. Abs., J. Am. Dent. A., xx(1): 934. 1933.

Models, roentgenograms, and case histories are presented to show how, in some cases, paradental lesions can be cured by cusp grinding, as in Group 1. Group 2 involves cases in which the height of the bite is normal, but prosthetic restorations were necessary to restore normal occlusion. Group 3 involves bite raising cases. The opinion is expressed that the cases in Group 1 have been generally overlooked and that a little grinding in time will, under certain conditions, save the bite from destruction.

297—Lundquist, C. R., D. D. S.: **The physiologic basis for treatment of so-called pyorrhea,** in: D. Digest, xxxix: 110, 122-123. 1933.

The author takes into consideration three factors: the chronicity of the condition, the shifting line of attachment of the investing tissues and the drift of the teeth. Chronically diseased tissue reveals an inflammatory rise followed by a natural recovery period. Treatment during the rise period instead of the decline period only aggravates the condition. Thus a disorder may not be amenable to treatment at first but may yield to the same treatment later on.

The tissues investing the root and neck of the tooth undergo an orderly process of physiologic absorption and recession or modified eruption as Gottlieb terms the latter. Recession when no pockets are present is a natural biologic phenomenon. The reattachment of the soft tissues to simulate the normal present at about 25 years of age is biologically untenable and is an impracticable desire for restoring the mouth to youth.

There is an everpresent mesial and occlusal drift of teeth. If the supporting tissues are not equal to rebuilding support for the tooth in its new position looseness results. Thus grinding such a tooth to compensate for its lack of wear and consequent traumatic occlusion is merely treating a symptom and not a cause. Most local treatments treat a symptom and not the cause. If tissue resistance and tone are built up even shifting of the epithelial attachment and drifting of the teeth will be an orderly physiologic process.

298—Lurie, W. A., M. D.: **Diathermy in stomatology with special reference to pyorrhea alveolaris,** in: J. A. M. A.: 135-137, 140. Mar., 1933.

The author describes a technique for applying a diathermic current to the oral region. When diathermic treatments are given for a local condition such as pyorrhea a beneficial local and general systemic effect results. The author cites two cases of pyorrhea alveolaris, one complicated by syphilis, the other by nephritis. In both these instances the patients were greatly benefited locally by diathermic treatment and their general symptoms were relieved. No oral hygiene was instituted.

Electro-thermic surgery should have a place in the treatment of pyorrhea alveolaris and oral surgery. Coagulation of pyorrhetic pockets may be effected with a fine diathermic needle. Diathermy is important to the stomatologist because it provides local stimulation and sterilization and benefits the entire body by its local application.

299—Merritt, Arthur H., D. D. S.: **Oral prophylaxis in its relation to periodontal health,** in: J. Am. Dent. A., xx(7): 1162-1166. July, 1933.

A general discussion of oral prophylaxis and its relation to periodontal health stressing the importance of oral sepsis both locally and systemically.

Procedure in treating patients is described.

300—Miller, Samuel C., D. D. S.: **Periodontal foci of infection.** (Incidents in office practice), in: J. Periodontology, iv: 94-95. Jan., 1933.

Systemic conditions due to periodontal foci of infection can be cleared up by the institution of periodontal treatment without the use of any antiseptics or vaccines.

—*J. O.*

301—Morrison, W. A., D. D. S.: **The pyorrhea problem in practice,** in: Proc. Dent., ii(2): 144-46. Oct., 1933.

Procedure in treating pyorrhea.

302—Muralt, Dr. G. R. Von: **Ein Fall von selbstbehandlung bei Paradentose.** A case of self treatment of paradentosis, in: Z. Rndsch. xlii: 1061. 1933.

A case is described of a 60 year old patient suffering from spongy and bleeding gums to-

gether with considerable tartar and sensitive necks of teeth. The patient brushed assiduously for seven years with a very hard toothbrush and prepared chalk. The result was similar to that gained by a gingivoectomy. The pockets disappeared and the gums became adherent and firm. The cementum was exposed on all the teeth, especially the front, and all the tartar was gone.

—*J. G. O.*

303—Murphy, R. H., D. D. S.: **Periodontal conditions in children,** in: D. Survey, lx(4): 33-35, 72. Apr. 1933.

The prevalence of periodontal disease in the mouths of young adolescent people, though not as prevalent as in adults, is due to the neglect of dentists to properly treat gingival disorders in children. They are prone to neglect such disorders simply because they are dealing with children.

The most important service one can render to children is prophylaxis administered at least every ninety days. When dealing with a potential case of pyorrhea radical prophylaxis should be instituted. This radical prophylaxis consists mainly of interproximal scaling. If the gingivae are badly hypertrophied gum resection should be resorted to.

304—Pitsch, Dr.: **Prophylaxie et traitement de la polyarthrite alveolodentaire chronique improprement appelée pyorrhée.** Prophylaxis and treatment of chronic alveolo-dental polyarthritis improperly called pyorrhea, in: J. de Med. de Paris, liii: 728-733. 1933.

Chronic alveolo-dental polyarthritis, commonly called pyorrhea, a term which should be reserved for the period of suppuration, is a local disease due to the lack of mastication. The author cites his own case in which cessation of mastication on one side resulted in typical suppurative pyorrhea on that side. Anthropological investigation lead the author to believe that races indulging in sufficient mastication show little pyorrhea in contradistinction to races eating soft foods and indulging in a minimum of mastication.

Tartar is not the cause of pyorrhea. One often finds pyorrhea around clean teeth. The microbic agents involved may be any of the oral flora. The infection is exogenous. The term polyarthritis is used because the disease lies in the articulation between tooth and socket and affects many teeth at a time.

Treatment lies in prophylactic measures, i. e., supplying sufficient mastication. Frequent brushing of the teeth with a neutral soap containing formol and washing with a formol solution are advocated. Artificial mastication should also be supplied by chewing on caoutchouc.

—*G. H.*

305—Parsons, A. L., D. D. S.: **The drugless anodyne,** in: D. Cosmos, lxxv(9): 838-843. Sept. 1933.

An enthusiastic endorsement of the use of the therapeutic ultra-violet wave in the treatment of periodontal disease.

306—Price, Weston A., D. D. S., M. S.: **Some clinical factors of saliva apparently related to alveolar decalcification and pyorrhea alveolaris.** Abs. J. Dent. Research, xiii(3): 195-196. June, 1933.

In a typical case of acute alveolar decalcification, or so-called pyorrhea alveolaris, age 25, alveolar bone of all four first permanent molars had been markedly absorbed, accompanied by typical pyorrhea pockets with some loosening. Before nutritional treatment, filtered saliva shaken with powdered bone gained 33.57 percent of Ca, and 2.18 percent of inorganic P. After nutritional treatment with fat-soluble activators and foods high in mineral content, salivary Ca decreased 68.13 percent, inorganic P 19.4 percent, both of which conditions the author has shown to be near to normal. Clinically there was very marked improvement. These data suggest relationship between fat-soluble activators and calcium utilization, and the etiology of pyorrhea alveolaris.

—*Copy.*

307—Prinz, H., M. D., D. D. S.: **Treatment of pyorrhea alveolaris; a clinical outline,** in: D. Survey, lx(2): 34, 36. Feb., 1933.

The two salient etiologic factors in pyorrhea alveolaris are abnormal occlusal stress and a lowered resistance of the articulating tissues due to local or general disturbance. The initial lesion is an atrophy of the paradental tissues.

The outline of treatment is briefly as follows:

1. General sanitation of the oral cavity.

Prophylaxis, extraction of faulty teeth, removal of supragingival calculus.

2. Specific instrumentation.
   Removal of subgingival calculus and granulation tissue by curettage.
3. Local medicinal treatment.
   Destruction of remaining granulation tissue by caustics, and stimulation of relaxed tissue by iodine medication.
4. Correction of abnormal occlusal stress and relief of nocturnal trismus.
5. Surgical treatment.
   Elimination of pocket.
6. Internal medicinal treatment.
7. Physical therapeutic measures.
   Massage.
8. Oral prophylactic and dietary measures.

308—Read, T. T., L. D. S. (Glasgow): **The treatment of paradental disease,** in: Brit. D. J., liv: 572-577. 1933.

Paradental disease may be clinically resolved into two main types. The first follows neglect of oral hygiene and functional disuse predisposing to infection, inflammation and late loosening of teeth. The second occurs in patients whose oral hygiene is fair and inflammation not so evident and the characteristic feature is an early mobility of the teeth. This type has been attributed to general causes, nutritional disturbances and to traumatic occlusion.

The author discusses treatment as general and local, each being complementary to the other. General treatment includes dietary regulation. The inclusion of vitamin A and D in diet is of fundamental importance. In fact all vitamins should be included. General ultraviolet irradiation of the body is beneficial.

Secondary anemia exists in many cases and will be revealed by a blood count. Diet, sunlight and treatment of conditions such as anemia improve the resistance and health of the patient and should be preliminary measures even in cases requiring complete extraction. Thus a decided reaction following the operation, due to toxic absorption, may be avoided.

The author advocates the use of vaccine treatment as a general procedure mitigating the operative reaction even though he has not tested the efficacy of such treatment. In many cases the establishment of nasal breathing is important.

In local treatment the promotion of oral hygiene and function is of prime importance. Cases which do not respond should be investigated with regard to traumatic factors. Surgical measures are effectively employed to eradicate pockets.

The number of cases of lung abscesses has materially increased and in many cases the condition is related to the number of operations performed in the mouth, nose and throat. Though no statistical evidence is present, yet serious consideration should be given to extensive extractions and the operative technic employed.

309—Rose, E. D., D. D. S.: **Effect of periodontal lesions in relation to occlusal trauma,** in: J. Am. Dent. A., xx: 840-53. 1933.

The prime factors in the prevention of periodontal diseases are proper function, correct diet, and sanitation of the oral cavity as well as the entire body.

If treatment is to be effective normal occlusion must be established. The technique used in grinding the teeth is described. Orthodontic treatment must occasionally be resorted to.

The usual treatment of the periodontal pocket by subgingival curettage is described.

The etiology of deep-seated Vincent's infection is attributed to lowering of gingival resistance to bacterial invasion by traumatic occlusion.

—*G. H.*

310—Rose, E. D., D. D. S.: **A conservative method of treating periodontal disease,** in: Northwest Dentistry, xii(1): 1-10. Apr., 1933.

Treatment consists of subgingival curettage; removal of traumatic occlusion; dietary advice; investigation of any systemic disabilities; a thorough check-up as to habits of personal hygiene.

311—Ryan, C J. K., D. D. S.: **The role of vitamins in the treatment of cervical hypersensitiveness,** in: J. Am. Dent. A., xx: 1712-1714. 1933.

The author presents a study on twenty tubercular patients with cervical hypersensitiveness. The addition of cod liver oil and tomato juice rich in fat-soluble and water-soluble vitamins to the diet resulted in marked improvement of the hypersensitive condition in one to three months. The loss of cervical hypersensitiveness was associated with a definite hardening of the dentine. The addition of one quart of milk daily to the diet will

also control mineral deficiency. This study seems to confirm Franken's view that cervical hypersensitiveness is due to a deficiency in fat-soluble vitamins and calcium. Before the study the patients drank little or no milk.

—*G. H.*

312—Starke, Dr. W., (Berlin): **Paradental prophylactische Gesichtspunkte bei Herstellung von Bruckenarbeiten,** Prevention of periodontal disease by reconstruction with bridgework, in: Z. Rndsch., xl: 382. 1933. Korresp.-Bl. f. Z., lv(12): 382. Feb., 1933.

Bridgework cannot be considered apart from the paradentosis problem. The prophylaxis of paradentosis includes, (1) protection of the paradental zone against local irritation of the gingival margin; (2) its protection against alveolar atrophy by relieving the supporting teeth of traumatic occlusion. The preparation of a bridge must be preceded by rendering the paradental zone healthy with suitable adaption of the gingival margin to the alveolar process. Different crowns and their use in eliminating radiating malocclusions are described. The interdental spaces are very important in the prophylaxis of paradentosis. —*H. A. R.*

313—Salvas, J. Clarence, D. D. S.: **Treatment of periodontoclasia** (Symposium on periodontal diseases), in: J. Periodontology, iv(1): 76-80. Jan., 1933.

Thorough subgingival curettage, establishment of proper occlusional relationships, examination of existing restorations, and the practice of scrupulous oral hygiene by the patient, are the chief principles of treatment suggested.

314—Senior, Arturo A.: **Epulis from scaling teeth,** in: D. Cosmos, lxxv(2): 198-199. Feb., 1933.

The majority of cases of epulis are the result of chronic inflammatory conditions. In a case reported the growth started when scaling was first performed, due to trauma given the gingiva. To avoid such traumatization it is suggested, "never to scale teeth in a hurry. Cultivate neat movements in instrumentation. Never lacerate the tissues. Wash all gingival spaces and pockets with some antiseptic . . . Use a clean instrument for each surface scaled. Bathe gums with aconite and iodine before discharging patient."

—*M. S. W.*

315—Sorrin, S., D. D. S.: **Treatment of periodontal disease,** in: Modern Dentistry, iii: 35-49. 1933.

A presentation in outline form of periodontoclasia, its symptomatology, etiology and treatment. The early signs of periodontal disease, the main causes of periodontoclasia, the deposition of calculus, the factors to be considered in removal of a pyorrhetic tooth, tooth replacement in pyorrhea, the use of sodium sulfide in treatment of periodontal pockets and the etiology and treatment of erosion cavities are some of the topics treated in this article.

—*G. H.*

316—Spalding, E. B., D. D. S.: **Bridge selection by the periodontist,** in: J. Am. Dent. A., xx: 661-664. 1933.

Teeth are normally arranged and supported in the periodontium so that they yield when in occlusion. This arrangement prevents fracture of crowns and mutilation of the periodontium. A fixed bridge will offer an unyielding front to opposing teeth. Fracture of crowns, pulpitis, devitalization of pulps, loosened teeth and periodontoclasia of the opposing teeth may result.

A yielding of both the abutment and opposing teeth is to be desired in bridgework. It is obtained by some types of removable bridges. The selection of the bridge type depends on the condition of the natural crowns of the teeth used for abutments. The Gillette, Chayes and Roach types are suggested for use.

—*G. H.*

317—Sucher, Anna: **Über eigenartige Wirkungen von Parathyreoidea-Extrakt. Wirkung bei Ulcus cruris und Alveolarpyorrhoe.** Special effects of parathyroid extract. Effect in cruris ulcer and pyorrhoea alveolaris, in: W. Klinische wchnschr., xlvi: 109-110. 1933. Abs. J. A. M. A., c(13): 1074. Apr., 1933.

A brief review of the work of various experimenters in the field. With the help of Dr. Sylvia Zappler, the author tried the effect of local application of parathyroid extract in cases of pyorrhoea alveolaris. The inflammatory appearance and the pain disappeared very quickly. The treatment has had, as yet, no influence on the loosening of the teeth. It is unknown to date whether the effect is due to a

stimulation of local calcium metabolism, or whether other biological factors must be taken into consideration.

—*J. G. O.*

318—Thesee, (Brest): **De l'emploi du muscle d'oiseau comme agent hémostatique dans les hémorrhagies buccales.** On the use of bird muscle as a hemostatic agent in buccal hemorrhages, in: Revue de Stomat: 393-396. 1933.

The author reports the use of the muscle of the pigeon as a means of arresting hemorrhage. He cites four successful cases in which he obtained the speedy cessation of bleeding by placing a piece of muscle on the bleeding parts and holding it there until bleeding stopped.

—*G. H.*

319—Tishler, B., D. M. D.: **Periodontia; some biologic and clinical periodontal facts,** in: D. Items of Int., lv: 766-773. 1933.

Some biologic problems in periodontal disease are presented. Many cases exhibit ideal conditions for the inception and progress of periodontoclasia, but are not affected. Middle aged patients very often develop marked periodontal lesions accompanied by profuse suppuration which is ingested for many years with no apparent harm, whereas, younger patients with less marked symptoms and suppuration often present neuritis, indigestion, and other abnormal conditions. There is a variation in cell responses to injury. The recurrence of periodontoclasia is common if subsequent mouth care is neglected. In this recurrence the same gingival lesions will always recur in a given case.

The above problems can be attacked and clarified by a biologic mode of inquiry. Cell resistance seems to increase with age since it is commonly found that periodontal tissues of many patients under twenty years of age degenerate more rapidly than those over sixty. Moreover, the age of patients bears no relationship to result of treatment indicating that regeneration of cells is not more active in youth.

The use of strong drugs and adjunctives in treatment is contra-indicated from a biologic viewpoint. There is a tendency of cells to heal if they are given a suitable environment free from all irritating factors. The use of medicaments may interfere with cell recuperation.

—*G. H.*

320—Towner, J. D., D. D. S.: **Correlation of symposium on surgical treatment of periodontoclasis,** in: J. Am. Dent. A., xx: 985-990. 1933.

Each essayist (James, Dement, Kaiser) proclaims prophylaxis and home care as essential to success.

James asserts that there is never any diseased bone in periodontal infection and that any bone remaining around a tooth is healthy. On this basis he holds it inadvisable to remove any of the alveolar process. He furthermore states that "the fewer the tissue cells destroyed the quicker the recovery." He advocates subgingival curettage.

Dement in advocating the modified flap or dissection method bases his choice on the advantages of visualizing the field, retention of tissue, esthetic values and reduced trauma.

Kaiser in advocating the resection method proposes the excision of all diseased tissue and exposure of the surface under treatment and reduction of labial, buccal and lingual alveolar crests to a plane commensurate with that of the pocket concavity.

Subgingival curettage offers the advantages of tissue conservation and avoidance of surgical shock but offers no visualization of field. The resection method results in perhaps the most injury to the tissues involved. The resorption that follows this treatment lowers the gingival line and results in exposure of cementum with consequent sensitiveness. These involvements argue against the extensive use of the resection method.

Since elimination of periodontal pockets may demand absolute removal of all contributing conditions under all circumstances periodontists may have recourse to all methods and an intimate knowledge of each is necessary.

321—Vincent, R. and Pretet, H.: **Gingival hemoculture in infectious conditions, accompanied by gingivitis or by pyorrhea alveolaris,** in: Paris Med. lxxxvii: 555-559. 1933.

Examination of the gums is often neglected, nevertheless, the clinical information they offer the physician is of the greatest importance. The pathological troubles of the mouth are interdependent with those of the entire digestive tube.

The gingiva reflects two sorts of disorders, endocrine-sympathetic and infectious states of remote organs. Glandular insufficiency may cause alveolar resorption and gingival

anemia and recession. Tooth erosion may also result from glandular insufficency. In infectious conditions microörganisms are brought to the gingiva by an endogenous route. One may draw certain therapeutic deductions from the above statement. In pyorrhea, therefore, the endogenous infection must be removed by an auto-vaccine prepared from gingival hemoculture. Local gingival treatment should destroy the inflammatory focus and create a fibrous barrier.

The authors go on to present in some detail their technic for gingival hemoculture.

—*G. H.*

322—Weeks, A. F., D. M. D.: **Periodontia, the dentist's opportunity, with special reference to radiography,** in: J. Cal. State D. A., ix: 126-134. 1933.

Periodontia is the framework of dentistry and its practice comprehends the whole of dentistry. The ideal of dentistry is the prevention of disease and in the practice of preventive periodontia a man will automatically practice preventive dentistry in all its departments.

The radiograph will in many cases show evidence of tissue destruction in the peridental membrane before there is any noticeable gingival abnormality. The importance of standardizing technic and angulation to produce uniform radiographs over a period of time is stressed.

Under a discussion of fees it is pointed out that the cost of prevention is approximately one half that of correction. Incipient conditions must be observed and treated no matter how trivial they may seem at the time.

—*G. H.*

323—West, John B., D. D. S.: **Case reports of nutritional deficiency as related to periodontia,** (Incidents in office practice), in: J. Periodontology, iv(1): 92-94. Jan., 1933.

Several cases are described showing clearing up of periodontal conditions by readjustment and regulation of the diet. In each case the general systemic condition improved in addition to the oral infection.

—*J. G. O.*

324—Withycombe, R. M.: **Surgical treatment of periodontal disease,** in: D. J. of Australia, Feb. 1932. Abs. in: D. Record, liii(3): 143. 1933; J. of Periodontology, iv(2): 225. July, 1933.

Unless the general practitioner has given considerable attention to the study and practice of periodontia, it is advisable for him not to treat advanced cases, but to restrict his activities to pockets which extend along the gingival third of a root only.

There are two operations in common practice: the first is performed by cutting away all infected gum tissue to bottom of the pocket. In this operation, the root will be exposed and may be cleaned and polished without any special skill.

The other and only satisfactory operation, and with which pockets up to 5 or 6 mm. may be closed with ordinary skill and careful attention, is as follows: Paint the necks of the teeth and gums with a glycerine preparation of iodine. With a double-edged curette carefully remove all deposits attached to the cementum. While these deposits are being somewhat forcefully removed the other edge of the curette will remove the ulcerated pericementum from the soft tissue walls. Follow this with a finer curette of the same type, with which the surface of the cementum and the surface of the soft tissue walls should be gently curetted. It is now imperative that nature be encouraged to form blood clots, with which to seal the pockets. Impress upon the patient the urgent necessity to conserve these blood clots in which are conserved all the properties of healing. To safeguard these all-important areas of regeneration, the toothbrush is prohibited until new tissue has formed, which is in about seven days. Finally polish the teeth with rubber cups, and it will be found, if the operation has been successful, that the soft tissue will have become attached to the cementum and closed the pocket right to the edge, even eliminating Nature's weakness, the gingival trough. There should be no hesitation in operating on the cementum in this section of the root. There is no danger in removing the whole of the cementum if necessary from this portion of the root, as the dentine when exposed is a compatible foundation from the biological standpoint and a suitable medium for reattachment (Box).

The difficulty in successfully treating a pocket between the gum and the root of a tooth is determined by the depth. If the pocket is a deep one no one should be blamed for extracting the tooth, but there is no need to sacrifice valuable teeth because there is a fringe of inflammation or exudation around the necks.

325—(1) Query: **Aphthous stomatitis at menstrual period,** in: J. A. M. A., ci(12): 875. Sept., 1933.

Replying to query concerning aphthous stomatitis in connection with menstrual period, distinct connection is recognized. Marked symptoms with pronounced edema of gums which sometimes occur at puberty disappear spontaneously with onset of menstrual flow. Oral symptoms and even toothache are more common during normal menstrual period and cases are cited in which such symptoms appeared and disappeared regularly with onset and cessation of menstrual flow. Davis (Medical Times, May, 1898) described case of woman of thirty-five cured of this type of periodic stomatitis by "removal of both ovaries, which were cystic. This is heroic therapy for a woman only thirty-five years old and entirely unwarranted. Unfortunately no certain way to prevent the monthly recurrence of aphthous stomatitis is known other than by eliminating ovulation." Cases of catarrhal and aphthous stomatitis have been described by Scheff (Handbuch der Zahnheilkunde, ed. 3, Vienna, 1910). (cf. Abstract 238(f), Journal of Periodontology, iv(2): 218. 1933.

326—(2) Query: **Aphthous stomatitis:** J. A. M. A., ci(8): 624. Aug., 1933.

Case is described of woman suffering from ulcers of tongue and mucous membrane. They begin as little bumps which soon slough at the points and the resulting ulcer remains for ten days or two weeks before healing (without a scar). Alkalis, brewers' yeast and cod liver oil have not availed. Answer: "This description corresponds in all respects but one (anemia) with the "chronic recurrent aphthous stomatitis" of von Mikulicz (von Mikulicz and Kummel: Krankheiten des Mundes, ed. 3, p. 71). The condition is quite rare and occurs as a rule in anemic women between 20 and 40 years of age. As this author says, "this condition is influenced neither by therapy directed at the anemia nor by any sort of local treatment." However, some temporary relief of the local conditions, especially the pain, may follow the use of the silver nitrate pencil applied superficially.

327—(3) Query: **Treatment of stomatitis in pernicious anemia,** in: J. A. M. A., ci(21): 1662. Nov., 1933.

Patient under treatment for pernicious anemia "now taking liver, stomach, and dilute hydrochloric acid" has persistent sore mouth in spite of all medication. Answer: "It is unusual for a sore tongue to persist in a patient with pernicious anemia after the blood has reached normal limits. When this does occur it may be the earliest evidence of a relapse and, therefore, be an indication for increasing the dose of liver extract or desiccated hog stomach. There is no specific local medication for this condition, although the application of a 1% solution of silver nitrate for two or three days may give temporary relief. The dilute hydrochloric acid should be omitted for several weeks as this may aggravate the glossitis."

(g) Home Care and Prophylaxis

(Continued from iv(2): 227. July, 1933)

46—Bertram, Irvin R.: **Dental prophylaxis,** in: J. Colo. State D. A., xii(3): 3-12. Mar., 1934.

An article written to convince the general practitioner of the importance of oral prophylaxis both for the health of his patients and the success of his practice.

A detailed account of the author's procedure in giving a prophylaxis treatment is given. —*M. S. W.*

47—Haverstick, E. E., D. M. D.: **When and how to use dental floss,** in: D. Cosmos, lxxv(12): 1179-1181. Dec., 1933.

With the aid of illustrations, the method of using the dental floss in any region of the mouth is shown so as to cause the least amount of gingival injury. Several rules are given such as, "Holding the dental floss taut; holding the muscles of the hands rigid" and many others. —*M. S. W.*

48—Jacobsmeyer, J. A., D. D. S.: **The necessity of psychoanalyzing one's patients, (Incidents in office practice),** in: J. Periodontology, iv(1): 89-92. Jan., 1933.

The author keeps in mind the adage that "it is easier to lead than to drive" and recommends that an analysis of the patient's temperament be made to get the fullest co-operation from him. —*J. O.*

49—Miller, Samuel Charles, D. D. S.: **The daily care of the mouth and teeth,** in: Modern Dent., ii(4): 24-28. Jan., 1933.

Article written for the layman instructing him in the care of his mouth; emphasizing the proper use of the toothbrush for which detailed information is given.

50—Miller, Samuel Charles, D. D. S.: **Can there be a new toothbrush?,** in: D. Outlook, xx(2): 66-67. Feb., 1933.

A type of toothbrush is described which is recommended as being highy efficient. There are a number of illustrations showing this toothbrush and the best method of its manipulation. —*M. S. W.*

51—Query: **Accumulation of tartar on teeth,** in: J. A. M. A., ci(20): 1581. Nov., 1933.

Query regarding excessive accumulation of tartar in tuberculous patient, male, suffering from constipation, mouth breather, saliva plentiful, teeth apparently in good repair. Reply by the editor gives a good practical summary of the composition of tartar, the *modus operandi* of its formation and the locations it is most likely to be found and why. Since foods no longer clean and massage teeth and gums, proper brushing has become very important. "This fact is little appreciated by the dental profession as a whole; therefore, it is not emphasized to the lay public . . . The accumulation of tartar can be controlled effectively by proper brushing. A thorough prophylaxis by a dentist is of limited benefit to the patient unless he knows how to follow up this service . . . The recommendation is that the patient acquire two good hard bristle toothbrushes and learn how to use them . . . Proper brushing essentially constitutes a vibrating motion with pressure rather than a long stroke motion . . . Cleaning agents are aids only if used in conjunction with a thorough brushing technique. Tooth pastes do not, as yet, possess the magic properties that some advertisers would have us believe."

52—Snyder, O. P.: **Instruction in oral hygiene,** in: Dent. Bull. (Supp. to Army Med. Bull.), iv: 67-69. 1933.

The author urges that instruction in oral hygiene be given informally to small groups of enlisted men by the dental surgeon. —*G. H.*

53—Stillman, P. R.: **The toothbrush,** in: J. Am. Dent. Hyg. A., vii: 3-6. Nov., 1933.

A discussion of the use of the toothbrush in the maintenance of oral health by using it to re-establish the vascular function. The important factor is not how to use the toothbrush but to get the desired result, i. e., the establishment of a rich arterial blood supply to the gums and doing away with a sluggish vascular function. In bringing this about one can not help at the same time but remove oral débris, etc. Intelligent use of the brush aids the biologic mechanism which effects healing and sustains the organism. —*G. H.*

54—Weaver, S. M., D. D. S.: **A new deal for periodontia,** in: Dent. Survey, ix: 26-27. 1933.

The use of a triangular rubber pyramid is advocated as a means of interdental stimulation in conjunction with a proper method of brushing teeth. Following the removal of periodontal pockets the rubber stimulator promotes gingival repair and used continually maintains a firm and healthy gum septum. —*C. H.*

(h) Vincent's Infection

(Continued from iv(2): 235. July, 1933)

166—Albright, George C., D. D. S.: **Sodium perborate; its uses in the mouth and throat,** in: D. Cosmos, lxxv(1): 91. Jan., 1933.

In the treatment of Vincent's infection the author uses a paste made of sodium perborate and water applying it to the infected area where it is allowed to remain for several minutes. The patient then takes a small amount of water in the mouth and churns the resulting white fluid forcibly through between the teeth. This sodium perborate paste is used by the patient two or three times daily. In addition to the above one teaspoonful sodium perborate to a glass of lukewarm water is used as a mouth wash at two-hour intervals. —*M. S. W.*

167—Becks, Hermann, M. D., D. D. S.: **Camomile therapy in dentistry, its possible application in Vincent's infection and suppurative paradentosis,** in: J. Am. Dent. A., xx(3): 490. Mar., 1933.

Too great dependence upon smears for determining diagnosis, prognosis or therapy of Vincent's infection is inadvisable. The clinical and morphological picture is more dependable.

Camillosan is a drug pleasant in taste, mild, non-irritating and slightly astringent. It has a sedative, relaxing and anaesthetizing effect. It may be used in several forms and combinations which are given in the article, as are also the details of its use in treatment of Vincent's infection and suppurative paradentosis. It has been used successfully in the treatment of apthous stomatitis and to reduce the sensitiveness of the gingivae in Vincent's. It does not discolor the teeth.

168—Britton, B. H.: **Treatment of Vincent's angina,** in: Southwestern Med., xvii: 28. Jan., 1933.

(Magazine not available.)

169—Donson, S. D., D. D. S.: **Vincent's infection contracted during luetic treatment,** in: D. Cosmos, lxxv(9): 883-84. Sept., 1933.

It is claimed that this is the first case cited in literature of a Vincent's infection occurring in a luetic undergoing specific therapy. It is believed that this is due to the "lowered local tissue vitality caused by lack of proper hygiene" or to local tissue toxicity from the bismuth and arsenic injected. The lowered systemic resistance may also be a disposing factor. —*M. S. W.*

170—Downer, Harold, M. D.: **Vincent's angina,** in: Brit. D. J., liv(9): 467-471. May, 1933.

A thorough discussion of the disease including its etiology, incidence, bacteriology, symptomatology, diagnosis and treatment.

—*M. S. W.*

171—Friedman, Reuben, M. D.: **Vincent's disease as seen by the dermatologist,** in: Temple Dent. Rev., iii: 10-12. May, 1933.

The clinical manifestations of Vincent's infection and its etiology are presented. No original material.

172—Gracey, Clayton H., D. D. S.: **Vincent's infection (Part of a symposium on periodontal diseases),** in: J. Periodontology, iv(1): 68-73. Jan., 1933.

This article includes a brief summary of the etiology, symptoms and treatment of Vincent's infection. It is concluded with the statement that prognosis is favorable if properly diagnosed and treated.

—*J. O.*

173—Helfert, Irving: **Drugs used in treatment of Vincent's infection,** in: Dent. Stud. Mag., xi(5): 7-9-32. Feb., 1933.

A comprehensive essay on drug therapy of Vincent's disease. Some of the drugs discussed are sodium perborate, potassium permanganate, potassium chlorate, silver nitrate, trichloracetic acid, phenol, hydrogen peroxide, chromic acid and salvarsan. "Adams Treatment" is also mentioned. Reasons are given for the use of the various drugs and the procedure used in their application.

174—Kaiser, Frank, D. D. S.: **Case report,** in: J. Periodontology, iv(1): 83. Jan., 1933.

Report of a case of mixed infection of the gingivae with clinical symptoms of Vincent's infection. The case cleared up with prophylactic treatment, extraction of certain teeth, and lessons in home care of the teeth.

—*J. G. O.*

175—Kellett: **The incidence of Vincent's organisms in the mouths of children,** in: Brit. Dent. J., liv: 245. 1933.

Dr. Kellett, in the course of a paper on "Vincent's Infection in Childhood," which appears in the Archives of Disease in Childhood for October, discusses the question of when the organisms associated with Vincent's infection make their appearance in the mouths of children. Few investigations have been made on this point, and Dr. Kellett was only able to find references to it by Violle and Oshima. In order to settle this he therefore carried out an investigation of the teeth and tonsils of 168 children, using a special technique. He found enormous quantities of Vincent's organisms in the mouths of children with perfect teeth and gums who had never brushed their teeth in their lives, but in certain cases in which the toothbrush was

used regularly these organisms were hard to detect. They were invariably present in lesser quantities in older children with faulty teeth and gums, and Dr. Kellett regards this as being due not so much to these specific conditions, as to the fact that they made a reasonable degree of oral hygiene impossible. His results tabulated in the form of a graph show that the incidence of these organisms occurs in the second year and steadily increases up to six years, after which it remains practically stationary up to ten years and then diminishes slightly up to twelve. The graph follows closely a graph showing the age of incidence of Vincent's infection in children.

—*Copy.*

176—Kruse, Claude R., D. D. S.: **Chronic Vincent's gingivitis; a simple method of diagnosis and treatment,** in: Pac. Dent. Gaz., xli(2): 106-9. Feb., 1933.

A simple method of taking smears for diagnosis of Vincent's infection. The well known Adam's treatment is highly recommended.

—*M. S. W.*

177—Merritt, Arthur H., D. D. S.: **Vincent's infection; etiology, diagnosis, and treatment,** in: J. Dent. Research, xiii(2): 51-60. Feb., 1933.

A complete description of the etiology, diagnosis and treatment of Vincent's infection.

A 5% solution of chromic acid is used in treatment to bathe the tissues before instrumentation which is accomplished without injury or pain. Bleeding is encouraged to help remove the organisms in the gingival tissues. After this the gingivae are again bathed with the solution. This method is recommended as being highly effective. Several mouth washes are recommended.

—*M. S. W.*

178—Rosenthal, S. L., D. D. S.: **Vincent's infection-acute, subacute and chronic,** in: J. Am. Dent. A., xx: 438-446. 1933.

The chronic primary form closely resembles periodontoclasia or a stubborn gingivitis. In this type a scaling is first given followed immediately by arsphenamin treatment. The secondary infection differs from the primary only in severity of symptoms. The malaise becomes a prostration and the blood cell count falls. Treatment includes hospitalization, intravenous injection of arsphenamin, drainage of abscessed teeth, etc. In the tertiary type remote parts of the body may be involved.

The differential diagnosis of Vincent's is always guided by microscopic examination. The author does not advocate the use of chromic acid in therapeutics because it is an oxidizer, precipitates albumin and causes further necrosis. The use of chromic acid eventually brings results but unnecessarily prolongs the treatment.

The fact that no case of Vincent's has been recorded in the edentulous mouth (except immediately after extraction in the presence of the disease) may indicate that the periodontium may play an important role in the disease. No immunity follows recovery. The author reports an increase in the incidence of the chronic primary infection and suggests that perhaps the transference from man to man has lessened the virulence of the parasites and if so we can look forward to eventual freedom from this disease.

—*G. H.*

179—Sherman, L. E., D. D. S.: **Necrotic gingivitis (Vincent's): its diagnosis and treatment,** in: Mod. Dentistry, iii: 23-26. 1933.

A brief review of the primary and secondary incubation zones (Box) attacked by the anaerobic microörganisms, and the diagnosis and treatment of Vincent's infection. He points out the necessity for observing and treating any systemic disturbances which may be a predisposing factor in the disease.

—*G. H.*

180—Wilkins, Jr.; William Thos.: **Vincent's infection with report of case,** in: J. A. M. A., ci(26): 2050. Dec., 1933.

Report of case of Vincent's in which oral symptoms were virtually negligible, consisting of intermittent canker sores of tongue and lips, over a period of several weeks before the patient became seriously ill and confined to bed. Eventually, submaxillary glands became involved with temperature ranging from 100-102° and other toxic symptoms. White blood count increased from 7,500 to 10,200 in 10 days. Gums appeared normal

and smears from mouth showed only an occasional spirilla. However, neo-arsaphenamin was administered empirically and this was followed in 24 hours by an "explosion" of all oral symptoms into a typical Vincent's picture. Smears were filled with the organisms. In 48 hours all symptoms were improved, although low-grade fever continued for two weeks during which arsenicals and bismuth were given intra-venously and intra-muscularly, and also applied locally, and H_2O_2 and sodium perborate used as mouth washes. Similar washes had been used before patient went to bed without benefit. Smears from mouth after first injection showed only an occasional spirillum, and were negative in three weeks.

—*Copy.*

(i) Miscellaneous

(Continued from iv(2): 239. July, 1933)

78—Alarcon, A. G.: **Le pretendue prurit gingival de la premiere dentition.** So called gingival pruritis of the first dentition, in: Nourrissons, xxi: 232-233. 1933.

Many individuals are of the opinion that an infant's tendency to rub his gums, to chew his fingers and to desire suction and mastication is due to a pruritis provoked by the breaking through of the first dentition. The author disagrees with this view. The desire to suck things and chew them is a reflex aggravated by the muscular hypertonicity which is characteristic at this early age and the instinct of nutrition. There is no pruritis nor pain. Pain would prevent the infant from chewing and cause him to keep his mouth open.

—*G. H.*

79—Andre, Camille (Paris): **Le savon dans les dentifrices, poison chimique des gencives et des dents.** Soap in dentifrices, chemical poison of the gingivae and the teeth, in: L'Odontologie, lxxi: 827-837. 1933.

The use of soap in dentifrices is denounced. The notion of chemically neutral soaps is misleading. It is the physiological action of soaps that must be considered. The addition of phenolphthalein indicator to a neutral soap results in no coloration. Dilute the solution one time its volume and an alkaline coloration will result. The amount of hydrolysis varies with the other components of the dentifrice. Those substances which retard hydrolysis (alcohol, glycerine) cannot, however, be conveniently used in dentifrices.

In the mouth the action of the soap depends on the amount of water used in brushing and the completeness of removal of the soapy liquids. The saliva will lose its viscosity and adherence in the cleansing thus depriving the epithelial elements of their protection. Retention of caustic soda in uncleaned interstices results in an alkalinity favorable to anaerobic bacterial growth.

A discussion of the paper by Hulin, Ferrand and Roy is reported on pps. 854-861. Hulin states that even if a soap is rigorously neutral to phenolphthalein in the presence of water it will then have lost its therapeutic activity. Soap acts to bring about an anti-anaphylactic desensibilization of the tissues with which it comes in contact. Roy observes no changes in the teeth and gums which seem due to the soap alone. He condemns the use of soap, however, because it immediately softens the bristles of the brush and thus renders brushing ineffective.

—*G. H.*

80—Badanes, Bernard B., D. D. S., Ph. G.: **The role of fungi in deposits upon the teeth,** in: D. Cosmos, lxxv(12): 1154. Dec., 1933.

In spite of recent advance in the subject of the chemical and biological origin of deposits on the teeth too many factors are involved to state definitely as yet, that any particular condition or agent is most important. Nevertheless certain valuable facts in regard to the share that micro-organisms have in the concretion formations of the oral cavity have been ascertained.

In the white deposit on the teeth near the gum margins beneath which the enamel is progressively decalcified Bunting has found B. acidophilus with leptothrices, cladothrices and molds. The green stains so common at the margin of the gums upon the anterior teeth of children especially, and of persons of adult age who pay scant attention to the cleanliness of their mouths and beneath which the enamel is usually found to be more or less decalcified are probably formed by Penicillium glaucum and by the aspergilli. These molds are active producers of organic acids

which may account for the decalcification of the enamel. Naeslund while not denying the scientific evidence of the physico-chemical origin of tartar is convinced that the presence of certain living microörganisms especially Actinomyces and Leptothrix is essential. He thinks that these microörganisms through their growth bring about certain biochemical processes which cause the precipitation of lime salts dissolved in the saliva, also the decrease in hydrogen-ion concentration in connection with decomposition of protein colloids. The thread like structures of the fungi serve as a firm supporting stroma for the precipitated lime salts, and also for the attachment to the teeth.

None of the acids formed by bacterial growth precipitates any calcium from the lime salts present in a solution except oxalic acid which forms an insoluble salt, calcium oxalate. Many species of fungi and molds are active producers of oxalic acid. It is concluded that as there is under various circumstances some oxalic acid always to be found in the saliva it is but natural that a certain part of the lime salts should be precipitated from its solution and help to form concretions.

—*Ed.*

81—Brotman, Robert H.: **Pyorrhea,** in: Hygeia, xi(4): 314-15. Apr., 1933.

A brief account of the earliest reports in history of pyorrhea, its etiology, prevention and treatment. Written principally from a layman's viewpoint. —*M. S. W.*

82—Butheau, F., Proby, H.: **Kyste paradentaire à developpement sinusal chez un syphilitique.** A paradental cyst with sinusoidal development in a syphilitic, in: Sem. Dent.: 267-269. 1933.

The author cites a case of a chronic syphilitic individual (undergoing treatment for syphilis) who developed a paradental cyst above the maxillary sinus and parallel to the internal nasal wall of the sinus, with which it communicated. Under general anesthesia the cyst was removed and the cystic cavity drained nasally. The osseous wall being destroyed only mucous membrane exists between the cystic cavity and the pterygo-maxillary fossa. Gingival sutures were employed. One year after the operation the patient is in excellent condition.

—*G. H.*

83—Davis, Adelle: **Role of vitamin A in health and dentition,** in: Angle Ortho., iii(2): 94-105. Apr., 1933.

A review of the most important literature on the subject.

—*M. S. W.*

84—Duffy, J. J.: **Conservative procedure in care of cervical lymph nodes in intra-oral carcinoma,** in: Am. J. Roentgenol. and Rad. Therapy, xxix(2): 241. Feb., 1933. Abbr. Abs. J. A. M. A., c(22): 1808. June, 1933.

Duffy draws his conclusions from study of 1363 patients in Memorial Hospital. Seventy per cent of the cases with intra-oral carcinoma, presented without palpable nodes and of the remaining thirty per cent, two hundred and five patients had inoperable cervical metastases. Palpable cervical nodes are often hyperplastic nodes and diagnosis is difficult. Duffy practices conservatism with patients who have not cervical metastases; and the field of operable nodes is being narrowed in both advanced and borderline cases which have cervical involvements.

—*C. R.*

85—Ferrier, W. I., D. D. S.: **Clinical observations on areas of erosion and their restoration,** in: J. Am. Dent. A., xx(7): 1150-1163. July, 1933.

The belief is expressed that the large percentage of cases of erosion are self-inflicted due to the improper use of the toothbrush in conjunction with toothpowders and toothpastes. Erosions occur only in the best kept mouths.

Ferrier believes the best treatment of erosion is restoring the wasted area with filling material, preferably gold, but as a second choice porcelain. A detailed account of the procedure used for filling Class V cavities with gold foil is included.

—*M. S. W.*

86—Friedman, Bernard D., D. D. S.: **Pyorrhea,** in: Bull. Chicago D. Soc., xiv(19): 17-18. Dec., 1933.

An article written for the layman.

87—Garvin, M. H., D. D. S.: **A practical analysis of regular dental prophylaxis,** in: J. Am. Dent. A., xx(1): 27-34. Jan., 1933.

A report made on a study of 765 patients who were examined every three or four months for prophylaxis and other necessary work. Only twenty-nine per cent of these patients had teeth extracted after having started these regular examinations, and the majority who lost teeth, lost them because of root canal operations which had been previously performed. Periodontoclasia was largely avoided due to frequent prophylactic care.

The conclusion reached was that extraction of teeth due to periodontoclasia or cavities can be largely eliminated by following a similar procedure.

88—Grythe, Olaf: **Do certain fungi play a part in the formation of dental calculus?**, in: Norske Tannlaege. Tid.: Jan., 1933, p. 1. Abs. J. Am. Dent. A., xx: 934-35. May, 1933.

The different theories of dental calculus formation are discussed, giving a fairly detailed explanation of the theory of Professor Nasland of Upsala, whose view the author's own work largely substantiates. Certain types of leptotrix and actinomyces (the author thinks these might be different formations of the same organism) form the stroma for the calculus, and by their ability to lower the hydrogen ion concentration of saliva, they also cause the precipitation of the calcium in the saliva.

The illustrations show different forms of the same organism varying from short rods to ray fungi grown on culture mediums with a pH varying from 5 to 8. Even in test tubes, the fungi have the ability to lower the pH of the medium, but only if no carbohydrates that can be fermented are present. This, the author believes, is the reason for the calculus formation at the opening of the salivary duct; the saliva is here free from carbohydrates and the mycelium can cause the precipitation of calcium.

—*Copy.*

89—Hanssen, Rudolph, Dr.: **Vergleichende Untersuchungen über Zahnsteinlosende Wirkung, insonderheit der Kohlensäure.** Comparative researches into the action of tartar solvents, especially carbonic acid, in: Deutsche Monats. f. Z., li: 289-308. Apr., 1933.

90—Harris, Leon, M. D., D. D. S.: **Salivary calculus,** in: D. Survey, ix(7): 32-33. July, 1933.

Calcific deposits in the salivary glands and their ducts, principally submaxillary and parotid, are fairly common. Their clinical symptoms, radiographic examination and treatment are described. —*M. S. W.*

91—Heinrich, Dr. Erich: **Graphologische Untersuchungen am Schriftmaterial Paradentosekranker.** Graphological researches into the handwriting of paradentosis patients, in: Zahnärzt. Rundschau, lii: 226-232, 253-260. 1933.

It is generally understood that handwriting is a projection of the mental organization, that small variation show various differences in personalities. Examination of the writings of a number of patients suffering from dental disease shows that no oral disease is physiologically intact by itself, but its effect is shown through the patient's handwriting.

According to Dr. Heinrich's observations there are more introverts than extroverts; and also that nearly all people who grind their teeth and bite heavily are introverts. The introvert, therefore, is more liable to paradental diseases and measures should be taken to have him express his emotions outwardly rather than inwardly.

—*J. G. O.*

92—Hirschfeld, D. D. S.: **Importance of casts in periodontia practice,** in: J. Am. Dent. A., xx: 1223-1233. 1933.

The routine use of casts in periodontal service is advised. The making of casts may serve to particular advantage in the detection and correction of traumatic occlusion and food impaction; the recording of anatomic abnormalities and the progressive changes during and after treatment; in demonstrating existing conditions to the patient, and the early planning of postoperative restorations and the prognosis of questionable teeth. The patient is made more appreciative of the need for restorative work and the improvement during treatment.

A large collection of accurate casts is an invaluable aid in attaining an accurate conception of local etiologic conditions and a more logical viewpoint on the prognosis of periodontal disease. The author cites some of the clinical findings his collections of casts helped him to ascertain.

93—Hulin, Ch.: **Nomenclature et systematique etiologique des paradentoses.** Nomenclature and systematic etiology of the paradentoses, in: L'Odontologie, lxxi: 77-83. 1933.

The author presents, as he expresses it, a table if not absolutely definite yet certainly useful in understanding pyorrhetic states. At the conclusion of the article there is a lexicon of the terms employed and the authors who created them.

Physiological atrophy, gingivitis (simple or latent) and the preparadentoses are eliminated from the general ring of the paradentopathies. As for nomenclature, paradentitis refers to the inflammatory paradentopathies and paradentosis refers to the dystrophic forms.

Three general influences determine the morbid predisposition of the epithelio-connective tissues. They are hereditary propathies, acquired local propathies and acquired general propathies. The lower part of the table divides the paradentopathies into two great classes. The first is paradentitis characterized by purulent inflammation with secondary atrophy of the tissues. The second is the paradentoses, characterized by the slow and progressive atrophy of the fixed tissues with sometimes suppuration in the final stage. The above classes are subdivided into clinical types depending on special differences.

94—Jaccard, Réné (Geneva): **Nécessité d'une collaboration internationale pour les recherches sur la paradentose.** Necessity of an international collaboration for paradentosis investigations, in: Schweiz. Mschr. Zahnheilk, xliii: 196-206. Mar., 1933.

Paradentosis has been the hotbed of odontological controversy. Jaccard deplores the confused terminology. In order to make the etiology of paradentosis lucid we must first establish an international terminology accepted by all workers, both in dentistry and medicine.

The Eighth International Dental Congress (Section IV) has attempted to clarify and establish a terminology and classification of paradental diseases. There are listed seven diseases as follows: pure gingivitis, preparadental gingivitis, inflammatory paradentosis, dystrophic paradentosis, presenile atrophy, senile atrophy.

The author presents a very brief summary of the twenty-two articles presented before the Congress. "Taking the resorption of the soft tissues and the bony structures of the paradentium as fundamental symptoms we may easily distinguish between an inflammatory complex and a dystrophic osteopathic complex."

(a) "The inflammatory complex is characterized by an epithelial disturbance of the paradental vascular apparatus and of the reticulo-endothelial tissue. This complex corresponds to the clinical aspects of gingival inflammation, hemorrhage and tartar formation."

(b) "The osteopathic dystrophic complex is brought about by a weakening of the fibroblastic and petroblastic cells of the periodontium. It manifests itself in the type free from inflammation, but which has deep pockets and mobility."

(c) "Classification into these two types (a and b) allow us to determine in cases where both complexes (inflammatory and dystrophy-atrophy) are present, the mixed type (mixed or combined) characterized by marked paradentosis in young subjects and locally characterized by migration of the teeth and in the general system by mono- or poly-glandular insufficiency."

Because of the systemic relationship of paradentosis, Jaccard presents a diagnostic plan drawn up at Geneva by the A. R. P. A. It includes a thorough dental examination, medical examination, laboratory examinations and a pathological anatomy examination.

The author's conclusions are:

1. "The investigations of the paradentosis section of the Eighth Intern't'l D. Cong. evidently shows that the general system is primarily responsible in the etiology of this particular disease."

2. The descriptive ideas that we have are not at all clear, the terminology differing in each country.

3. General medicine must recognize the importance of the paradental syndrome and odontology with the frequent relationship of paradentosis to the general system.

4. A collaboration between physicians and dentists is necessary as is the union of investigators of all countries.

5. The association for paradentosis investigations, A. R. P. A., must be international as well as national.

95—Kelly, Edmund, M. D.: **Radium therapy in carcinoma of lip,** in: J. A. M. A., c(6): 388. Feb., 1933.

Kelly prefers radium to surgery in carcinoma of lip, because:

1. He has obtained excellent end results and a large percentage of 2 year and 5 year cures in 535 cases studied.
2. Better functional and cosmetic results.
3. Economy of time and money: hospitalization unnecessary.
4. Patient can carry on an occupation as before without economic loss.

In conclusion Kelly says disease is readily recognizable before excessive local extension has occurred or metastasis to glands. It is slow to metastasize and "one might reasonably expect to get practically all cases while still in curable stage; and by irradiation cure over 90% without hospitalization."

—*C. R.*

96—Lain, Everett S., M. D., (Univ. of Oklahoma): **Electro-galvanic lesions of the oral cavity produced by metallic dentures,** in: J. A. M. A., c(10): 717. Mar., 1933.

In a previous communication Lain discussed lesions of the oral cavity caused by electro-galvanic discharges between dissimilar metallic dentures and reported thirty consecutive cases. Since then he has made a study of more than 300 additional cases of this kind, several of which he reports in detail, and from which he presents the following summary and conclusions:

"1. Study was made of more than 300 oral cavities which contained dissimilar metallic dentures, 71% of which showed some evidence of electro-galvanic phenomena.

"2. The human saliva is a good electrolyte and dissimilar metallic dentures constitute the necessary electrodes. Each such oral cavity thus has a complete galvanic battery.

"3. The intensity of the current and pathologic changes produced depend on many physical and electrochemical factors of which the most important is the relative position of the dissimilar metallic dentures in the electromotor series.

"4. The most common objective and subjective symptoms produced are metallic taste, salivation, mucous patches, erosions, leukoplakia, nerve shocks, burning tongue, indigestion, and nervous irritability. Each of these symptoms may be more or less intermittent.

"5. Positive cases of electro-galvanic injuries are promptly relieved by removal of the offending dentures and restoration with dentures of uniform electro-potentiality.

"6. In order that the electro-galvanic phenomenon with its serious pathologic changes in the oral cavity may be avoided, manufacturing dental laboratories should endeavor to offer to the profession satisfactory denture materials that are of the same electro-potentiality."

—*C. R.*

97—Lowenburg, Harry and Naide, Muir: **Arsenic poisoning caused by mouth wash containing solution of potassium arsenite,** in: J. A. M. A., c(10): 737. Mar., 1933.

Lowenburg and Naide report in detail case of girl of ten admitted to hospital after 11 days treatment for Vincent's infection. She had experienced the following symptoms: anorexia, fetor oris, and anuria; also, continuous nausea and inability to retain even water. Admission diagnoses were: (1) Vincent's infection; (2) anuria (of unknown origin). On admission temperature was 98.6, pulse 100, respiration 25. Blood examination showed 80% hemoglobin, 4,520,000 red cells, 22,400 white cells of which 87% were polymorphonuclears. Wasserman tests were negative. Investigation disclosed that the patient had received an injection of thio-bismol into the buttock, a local application of neo-arsphenamin (4 gm. in aqueous solution), and a mouth-wash containing vini ipecac. oz. 2, glycerine drams 4, and liquor arsenicalis (Fowler's sol'n) to make four ounces. The exact nature of medication previous to admission was not known until after correspondence with physician in distant city, but on conjecture as to the possibility of presence of arsenic in drug injected as a likely cause of anuria, examination revealed arsenic in the urine on catheterization. Thio-bismol contains no arsenic, and the neo-arsphenamin applied locally had been greatly diluted and applied lightly to the gums but once, while the solution of arsenite in the mouth wash contained a potentially poisonous quantity of arsenic. Diagnosis was arsenical poisoning from the mouth wash. Appropriate

treatment resulted in prompt subsidence of subjective symptoms; clinical condition improved gradually, with disappearance of all symptoms in six weeks.

Summary:

1. Arsenic poisoning is possible from easily absorbable preparations of arsenic used as mouth washes.

2. The practice is pernicious and unnecessary.

3. Equally good results are obtained in Vincent's and other mouth infections by simple cleansing and oxidizing agents.

4. Arsenic poisoning should be suspected in all cases of persistent vomiting, especially when associated with anuria and a history of mouth infection.

—*C. R.*

98—Lund, C. C., and Holton, Hilda M.: **Carcinoma of buccal mucosa: end-results, 1918-1926,** in: New England J. of Med., 208: 775. Apr., 1933. Abs. J. A. M. A., ci(8): 638. Aug., 1933.

Lund and Holton present the five year end-results in 1126 carcinomas of the mouth seen from 1918 to 1926 inclusive. The cases have been analyzed and presented according to a classification that is slightly modified from that of the American College of Surgeons. It is shown that small cancers of the mouth are curable in a much larger percentage of cases than has been realized. The authors present and discuss data on the problem of the best form of treatment, but they have drawn no final conclusions. This discussion includes surgical methods, radium treatment, combined surgery and irradiation, radical versus incomplete surgery, and surgery versus irradiation.

—*Copy.*

99—Lundquist, G. R.: **What is pyorrhea?,** in: Bull. Chicago D. Soc., xiv(19): 18-19. Dec., 1933.

An article for the layman.

—*M. S. W.*

100—Maurel, Dr. G.: **Les phlegmons gangreneuse d'origine bucco-dentaire.** Gangrenous cellulitis of bucco-dental origin, in: L'Odontologie, lxxi: 659-676. 1933.

Ludwig's angina or diffuse gangrenous cellulitis of the buccal floor is often of dental origin. The author concerns himself only with cellulitis of dental origin.

Gangrenous pulpitis and accidents occurring during the eruption of the third molar are often etiological factors. Cellulitis may sometimes occur in connection with pyorrhea. Although gangrenous cellulitis often occurs after extractions, the author believes that extraction is not responsible. An infected tooth is a focus of infection and should be removed. The age of the patient and the general systemic condition are not prime factors. The specific cause lies in the field of bacteriology. The anaerobes of gangrene, staphylococci, streptococci, etc., are the etiological factors. The spirillum plays only a secondary role.

The article presents the clinical symptoms, the mode of spread of the angina from the jaws to the face and neck and describes the necessary surgical intervention for drainage. The final state is the classic gaseous gangrene and is fatal. Treatment should be early and consists of surgical drainage, accompanied by serum therapy. Antistreptococcal and polyvalent antigangrenous sera are used.

—*G. H.*

101—Merritt, Arthur H., D. D. S.: **Pyorrhea alveolaris—its relation to oral and general health,** in: N. Y. St. J. of Med., xxxiii(18): 1088. Sept., 1933.

Article for the physician describing the diagnosis, etiology and effect of pyorrhea upon the general health. Author stresses the need of coöperation between physicians and dentists in the recognition and treatment of the disease.

—*M. S. W.*

102—Merritt, Arthur H., D. D. S.: **Correlation of symposium on periodontal diseases,** in: J. Periodontology, iv(1): 80-82. Jan., 1933.

Summary of the points made in the symposium by A. J. McDonagh, C. H. Gracey, A. W. Bryan and J. C. Salvas.

103—Morrison, W. A., D. D. S.: **Pyorrhoea, extractions, rheumatic arthritis,** in: D. Mag. and Oral Topics, ix: 168-169. 1933.

A case illustrating the relationship between oral sepsis and rheumatoid arthritis is

presented. The patient, male, thirty-seven years of age, suffering from pyorrhoea. Nine teeth were extracted in two groups a fortnight apart under local anesthesia. Acute rheumatoid arthritis develop within another fortnight due to the effect of toxic absorption.

—*G. H.*

104—Praeger, Dr. Wolfgang: **Erkrankungen des Zahnmarkes.** Sickness of the tooth pulp, in: Fortschritte D. Z., ix(1): 367-380. May, 1933.

Dr. Praeger, in a discussion of the tooth pulp in periodontal diseases, says that disturbances of metabolism of any kind, especially in periodontal diseases, leave their traces in the pulp of the tooth, without in any way threatening the life of the pulp. The pulp passes through several stages; first, dilation of the vessels and building up of secondary dentine; next, congestion of the vessels and thickening of the stroma, with deposition of salts; lastly, there is reticular formation with atrophy of the cells. He discusses the methods of diagnosis, concluding that the objective tests used by the dentist give better results than when the patient's judgment plays the important part in diagnosis. Dr. Praeger advises the amputation of the crown pulp, which, though difficult, gives quite good results. Where this is not indicated, devitalization of the tooth should be proceeded with.

—*J. G. O.*

105—Query, **Hairy tongue,** in J. A. M. A., c(14): 1132. April, 1933.

Case of hairy tongue is described and data on the subject is requested.

Answer: "Hairy tongue is a rare anomaly thought by Heidingsfeld, who studied it, to be hereditary in origin. He also thought there was a pseudo-black tongue that is caused by local irritation. All forms are innocent, most cases clearing spontaneously after a time as the one described seems to be doing. Any mild antiseptic application may be used. Five percent solution of gentian violet has been successful in some cases."

cf. Heidingsfeld, Jour. Am. Med A., Dec. 17, 1910, p. 2117. (cf. Journal of Periodontology, vol. iv(2): Abstract 71, p. 237.)

106—Query, **Treatment of ranula,** in: J. A. M. A., c(22): 1799. June, 1933.

In reply to question regarding treatment of ranula at base of tongue near frenum, the following references are supplied:

Thompson, J. E.: Relationship between Ranula and Branchiogenetic Cysts, Ann. Surg. 72: 164. Aug., 1930.

Blair, V. P.: Ranula, Ann. Surg. 77: 681. June, 1923.

Blair, V. P.: Surgery and Diseases of the Mouth and Jaws, St. Louis, C. V. Mosby Company, 1912; revised 1918, 1920.

Thompson, J. E.: Cysts in Neck Arising from Remains of Branchial Clefts (Surgery and Embryology), Surg., Gynec. and Obst. 31: 19. July, 1920.

Gilmer, T. L.: Lectures on Oral Surgery, L. S. Matthews, 1903.

107—Rauh, Sidney J., D. D. S.: **The place of dentistry and periodontia in the social scheme,** in: J. Periodontology, iv(1): 52. Jan., 1933.

Since only 20 to 25% of the people of the United States receive regular dental attention it can be seen that there is a wide field for educational services by professional groups. Social service and educational work among children and adults have brought about great improvement in the care of the mouth with accompanying physical and scholastic well being. Dr. Rauh seems to be in favor of State Medicine, and believes its coming inevitable. Moreover, it behooves the dental profession to try to direct its course in such a way as to produce the best possible results for both the public and the profession.

—*J. G. O.*

108—Roffo, A. H.: **Nodular myolysis of the tongue,** in: Zeitschr. f. Krebsforschung, Berlin, xxxix: 464. Sept., 1933. Abbr. Abs., J. A. M. A., ci(20): 1597. Nov., 1933.

Roffo describes lesion of tongue which he designates nodular myolysis. Among the 800 cases of lingual cancers that came under his observation within the last four years, this is the second one of this nature. Three years ago the woman first noted a nodule the size of a lentil, which gradually increased to the size of an almond. The nodule was hard but painless and was covered with mucous membrane of normal appearance. Removal of the nodule was followed by cure. The histologic examination disclosed that the lesion involved only the striated muscle fibers of the tongue.

The author assumes a traumatic etiology, since other causes could not be detected.

—*C. R.*

109—Roy, K. W., Ph. D. and Chaden, H. C., B. S.: **The abrasive power of toothpastes,** in: D. Cosmos, lxxv(11): 1070-77. Nov., 1933.

Report of a study to find the extent of the abrasive power of most of the toothpastes on the market. All of the toothpastes were found to be abrasive on the cementum and dentine whereas none were abrasive on the enamel.

Dicalcium phosphate was found to be the least abrasive substance in relation to calcium carbonate, calcium sulphate and tricalcium phosphate, the latter two being the most abrasive substances found in the toothpastes.

—*M. S. W.*

110—Schmidt, I.: **Examination of lead content of tartar of teeth in workmen in lead industry,** in: Zentralbl. f. Gewerbehyg., x: 101-104. 1933.

(Magazine not available).

111—Sheahan, George M., M. D.: **Aphthous stomatitis,** in: J. A. M. A., c(6): 445. Feb., 1933.

Sheahan, in letter to editor, says nervous factor is to be considered. Exercise in open air and thorough mastication of food are advised. In some cases citrus fruits have effected cure; in others minute quantities of acid are irritating. Mouth washes combining zinc chloride with aromatics are best and to be used strong. Writer is surprised that books on therapeutics for the most part neglect this troublesome and persistent condition.

—*C. R.*

112—Stewart, C. B.: **Care of cervical glands in intra-oral carcinoma,** in: Am. J. Roentgenol. and Rad. Ther., 29: 234. Abbr. Abs.: J. A. M. A. c(22): 1807. June, 1933.

Correct combination of surgery and irradiation should give better results than either alone. Since there is no completely satisfactory therapy, all workers should report method of treatment and results so that patients may benefit thereby.

113—Taylor, M. K.: **Cleaning of the teeth, a letter to the editor,** in: Brit. D. J. liv: 249. 1933.

The author wonders that the profession allows the public to use the heterogeneous collection of brushes one finds on the market. The dentist should advise his patients as to type of toothbrush to be used.

—*G. H.*

114—Tellier, Dr. J.: **Les pyorrhées alvéolaires. Malades de la region gingivo-dentaire. Terminologie. Methode d'étude.** Pyorrhea alveolaris. Diseases of the gingivo-dental regions. Terminology. Method of study., in: Sem. Dent.: 1277-1285. 1933.

The nomenclature of diseases is based on the organs or tissues affected and the discrimination of the pathological forms. On this basis terms such as periodontal and periodontology have arisen. The author is of the opinion that such a basis for terminology is insufficient and should include, if possible, the dominant etiology and modes of action.

The term periodontoclasia used in the English language to designate any disease or any stage in a disease of the paradontium literally means a destruction of the periodontium and evokes no essential conclusion. It is merely a provisory term. The German literature has contributed the conception of the paradentium (Weski) which refers to the tooth and all its surrounding structures, paradentosis or dystrophic states, paradentitis or inflammatory states and paradentopathies or pathological states of the paradentium. These terms require a qualifying adjective. Like most of the preceding terms, the French terms are not definitive, require qualifying adjectives and have no general advantage over the older ones.

Tellier desires that the study of pyorrhea follow physiological lines. The diseases of the supporting tissues of the teeth result from the loss of equilibrium between the epithelial and connective tissues of which they are composed. Thus, a cellular physiological line of attack would be appropriate. Pyorrhetic diseases are, moreover, syndromic in nature and, therefore, present varying clinical pictures.

—*G. H.*

115—Wikblad, Ake: **Ist die Paradentose ein internmedizinisches Problem?.** Is Paradentoris a problem of internal medicine?, in: Odontol. Tidskr, xl: 1-35. 1932. Abs. Deutsche Monatsschrift Fur Zahnheilkun e, li: 513-514. June, 1933.

The designation "Paradentoris" is misleading and not suitable. Loosely, this concept embraces all the diseases of the structures surrounding the teeth, while it is more strictly used only for the marginal processes. Practically, one should say "marginal paradentoris," and denote all diseases of the apical region as "apical paradentoris." Moreover, the author desires that a sharp demarcation be drawn between the general pathological symptom-complex which he names paradentitis marginalis endogenica, and the local exogenous type produced. In support of Loos he brings a schematic presentation of his classification. In the second part of his work the causal factors are accurately set forth. To disharmonies in normal conditions occur traumatic attacks and supragingival tartar. A true criterion is the change in the picture of the capillaries. Organic and inorganic poisons are frequently the cause. Analogously one can imagine the origin of the marginal paradentitis on the basis of a tissue atony. There follows a detailed discussion of the relationships of paradentitis marginalis with the internal and nervous diseases in light of the most recent literature. There is pointed out the clear differences of the metabolic examination of the endogenous and exogenous paradentitis. The knowledge of the predisposing constitutional types would render possible prophylactic measures and bring to a successful therapeutic conclusion the care of endogenous paradentitis, when dentist and internist work together. —*J. G. O.*

116—Wilson, Wilfred R.: **The hygienist and the periodontist,** in: Apollonian, viii: 180-189. 1933.

A letter to the editor telling of a questionnaire being sent to periodontists to determine opinion regarding the relation of the work of the dental hygienist to that of the periodontist.

117—Worm, Dr. W.: **Paradentose im Mittelalter.** Periodontal diseases in the middle ages, in: Paradentium, v(1): 24. 1933.

Dr. Worm has searched through the literature of the Middle Ages to find the earliest description of periodontal disease. He found it in the autobiography of Benvenuto Cellini who writes: "Moreover my teeth began to perish in my mouth. I became aware of this because the dead teeth being pushed out by the living ones, my gums were gradually perforated, and the points of the roots pierced through the tops of their cases. When I was aware of this, I used to pull one out, as though it were a weapon from a scabbard, without any pain or loss."

—*J. G. O.*

118—Young, G. S.: **Oral signs of systemic disease,** in: J. Ontario D. A. 1933. Abs. Brit. D. J., lv: 369. 1933.

So often in modern times the disease in the mouth is held responsible for systemic disease, that it is refreshing to encounter a reverse picture and to consider conditions in the mouth as due to some disturbance in another part of the body. Dr. G. S. Young reviews the conditions which may act as warnings of incipient systemic disease—too pale or too deeply coloured mucous membrane, an increased or deficient flow of saliva, the odour of the breath, an increase in the size of the tongue shown by separating lower teeth, tremor of the tongue due to many causes, teeth marks on the tongue, furring, redness or geographical tongue. In early cases of pernicious anemia patients complain of a sore mouth, particularly of the tongue. A few red points may be seen along the edge of the tongue, the papillae are atrophied, making the dorsum of the tongue smooth; the significant point is that the patient's suffering is apparently out of proportion to the appearances. Unusual redness of the mouth and tongue may indicate diabetes or chronic nephritis. The signs of various poisons are often first detected in the mouth; mercuric or lead poisoning or the green stain of brass workers. An examination of the salivary ducts is important in early diagnosis, as, for instance, of mumps, and in measles small spots with white centres surrounded by purplish red areolae are diagnostic; diffuse hyperaemia of the mouth, especially round the tonsils, is one of the signs of scarlet fever, and aphthae appear in the early stages of chickenpox.

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In addition to the abstracts done by members of the Academy for this issue of the Journal much of it has been done by George Hillman, Joseph G. Ornstein and Morris S. Weinstein.

BOOK REVIEWS

Beitrage zur Klassifizierung der Tumoren des Mundes und seiner Nebenorgane. Contribution to the Classification of Tumors of the Mouth and Neighboring Organs. (Doctor's Dissertation, University of Rostock.) 48 pages, 1932. Review, J. A. M. A., ci(10): 802. Sept., 1933.

The author presents a classification of tumors of the mouth designed particularly for the dentist. The histologic, embryologic, and biologic aspects of mouth tumors are discussed briefly, with occasional reference to radiosensitivity. Special emphasis is placed on tumors arising from the dental structures. The classifications of different authors are referred to. The discussion of pseudotumors is important in that it calls attention to certain unusual tumor-like lesions so frequently confused with true neoplasms. The presentation is brief and accurate and should form a useful guide to those particularly interested in the histopathology and more especially the histogenesis of tumors of the mouth.

—Churchhill, H. R., D. D. S.
—*Copy of Review.*

Diet and the Teeth, An Experimental Study: Part III. The Effect of Diet on Dental Structure and Disease in Man. By May Mellanby (London). 180 pages; 46 plates. Review in: J. Am. Dent. A., xxi(9): 1715. 1934.

The novel character of the conclusions drawn from the early experiments of May Mellanby in Parts I and II of her memorable work on diet and the teeth and the widespread acceptance of the general conclusions of Mrs. Mellanby makes the third part of the work a matter of interest. Readers will recall that the previous studies of Mrs. Mellanby were concerned with the effects of certain diets on the structure of teeth of dogs. The present report carries those experiments over to man. The earlier studies were used as a basis for the contention that normal tooth structure, the definition being a purely arbitrary one, depended on an adequate supply of nutritionally available calcium and phosphate supplemented by vitamin D; and that the structure of the teeth could be changed at will according to the diet. Despite this simple picture, it should be pointed out that Mellanby's conclusions have not been accepted any more than the simple chemical explanation of caries offered years ago by Miller. This does not detract from the value of the findings, but suggests that further search is necessary before the last of this long story is told. Indeed, in this country, investigators whose conclusions are evidently free from bias maintain that an adequate diet in all the essentials is necessary to prevent or arrest decay. It is significant that nearly all groups of reliable investigators have found all the calcium and phosphorus supposedly needed in the diet without resorting to expensive tablets or powders for whose use there is little authority. In this respect Mrs. Mellanby stands on the same grounds as her American colleagues. For those who have not the book available, some of the conclusions of the clinical work may be of interest:

A. The structure of the teeth in animals was "the outcome of a battle" between specific dietetics and environmental influences during the period of dental growth. The factors which aid calcification are:

1. Fat-soluble vitamins, especially D, and foods containing these; i. e., egg yolk, cod liver oil, fish, meat fat, and milk.

2. Foods rich in calcium and phosphorus; i. e., egg yolk and milk.

3. Sunshine and other sources of ultra-violet radiation.

B. As against these may be placed those dietary factors which hinder calcification; i. e., cereal and cereal products; a contention not independently supported:

1. Foods producing growth without having calcifying influences; i. e., lean meat, pig fat, carbohydrates, etc.

2. Anything which prevents sunlight or other sources of ultra-violet from reaching the skin.

Those measures listed in the first category may be readily accepted but there is still some question as to the contention regarding "toxic properties" of cereals.

The normal tooth, as defined by Mellanby, is one with a smooth, shiny, and creamy white surface and showing in section relatively thick enamel with little pigmentation and comparatively little tendency to stain, and thick dentine free from poorly calcified areas. Any tooth not up to this standard is described as "hypoplastic." It was found in the experiments that there was a definite relationship between the surface texture and histologic structure. Using these criteria, Mellanby concludes from a statistical study that the teeth of English children are largely defective in structure.

Normal teeth as a rule are more resistant than hypoplastic teeth to caries, and the results of experiments on dogs are transferable to man. This statement is of some importance in view of the contentions, that results on the teeth of animals are not transferable to man. In children, as in animals, these teeth calcify *in utero*. Hypoplasia was not so easily produced. This is supported by an examination of the deciduous teeth and those which develop after weaning when the child is placed on a mixed diet. A fact of social significance is the finding that children from poor English homes are more liable to have imperfectly calcified teeth with a greater tendency to decay. As far as these results are applicable to children in American homes, a more careful consideration of the data is advisable. Treacle, cereals, and salt pork form a large part of the diet of English children, whereas, in this country, as shown by an eminent dietician a few years ago, the tendency is toward a more varied diet. In experiments of this sort, the exceptions are probably of more importance than the rule, for exceptions may sometimes lead to a clue. Examination of the children observed showed that in 11% there was little or no direct association between the primary structure and the liability to decay. The clue to these exceptions, according to Mellanby, is suggested by the previous animal experiments. For instance, "when fully erupted teeth of dogs are subjected to an external stimulus, such as attrition naturally acquired or produced artificially, the odontoblasts of the corresponding part of the pulp chamber respond by laying down new dentin. The quality and quantity of this secondary dentin can be controlled by the character of the diet. From this, Mellanby concludes that the hypothesis between dental structure and caries is fully defined, although she admits that other factors may exert a secondary influence.

The amount of vitamin D that is necessary to insure perfect calcification is not known, a fact of great importance; nor are we fully aware of the amount of calcium and phosphorus required in relation to vitamin D during different periods of growth, nor the form in which they are most readily absorbed or utilized. These conclusions should be food for thought to those diet faddists who exploit calcium phosphate compounds in tablets or powder form for the development of perfect teeth. Despite the recent picture painted in the promotion of these materials, a reading of this part of Mrs. Mellanby's work will make apparent at once that the subject is even more complex than in respect to rickets, which already has been the subject of a great deal of clinical and biochemical investigation. In this respect, it may be pointed out that the calcium and phosphorus relationship and the dosage of cod liver oil and other sources of vitamin D for the cure and prophylaxis of rickets is more clearly known. This factor becomes apparent as one studies the literature in respect to the use of cod liver oil for the cure of rickets and the prevention of caries.

Whether one agrees or disagrees with the conclusions of Mrs. Mellanby, every reasonable mind will agree that she has contributed much to the investigation of this complex subject. Her work provides much food for thought.

The conclusions in the book are supplemented by a wide array of tables of statistical data and by many photographs. "Diet and the Teeth" is a monograph well worth the acquaintance of every dentist who is seriously interested in this vast subject.

Samuel M. Gordon.
—*Copy.*

Diet and Dental Health. By Milton T. Hanke, M. D., Chicago, Ill. 236 pages with illustrations. 1933. Review in J. A. M. A., cii (25): 2136. June, 1934.

This book presents detailed information concerning studies on dental problems, in the laboratories of the Sprague Memorial Institute at the University of Chicago by the Chicago Dental Research Club, the author

and other collaborators during four years. No attempt is made to give detailed descriptions of studies and theories of other investigators. The subject is approached from the view that dental diseases do not differ fundamentally from other diseases in respect to their representing the reaction of body tissues to and against some unfavorable circumstance. Chapters 2 and 3 discuss dental structures and the simpler dental diseases. Chapters 4 and 5 deal with the histopathology of scurvy in the guinea-pig. The remainder is devoted to experiences with dental diseases in people: Chapter 6 summarizes investigations of the relation of dietary deficiencies to gingival irritation, pyorrhea, and dental caries from observations on 191 patients of members of the Chicago Dental Research Club. It is postulated that the American diet is deficient in Vitamin C and that this may be a factor in dental diseases.

Part 2 outlines observations on 440 children at "Mooseheart," the City of Childhood of the Loyal Order of Moose, at Mooseheart, Illinois. A group of 341 children were under observation for three and one half years divided into three periods: a one year control period on the standard Mooseheart diet; a one year test period with one pint of orange juice and the juice of one lemon for each individual daily in addition to the standard diet, and finally a period of one and one half years in which three ounces of orange juice was served daily. A control group of 99 children receiving the standard diet but no citrus fruit juice was introduced during the test period to serve as an additional check. The experimental procedures and results are described.

The general conclusions of the book follow:

"1. The average American diet is adequate in calories but appears deficient in certain substances requisite to dental health, which may be the ultimate cause of much gingivitis, pyorrhea, and dental caries.

"2. Gingivitis and dental caries can occur in the majority of a large group of children receiving a quart of milk, one and one half ounces of butter, a pound of vegetables, one half pound of fruit, and nearly one egg a day. These foods do not therefore contain substances specifically antagonistic to gingivitis or dental caries.

"3. The addition of a pint of orange juice and the juice of one lemon to a diet that is nearly adequate in all other respects supplies something that leads to a disappearance of most of the gingivitis and an arrest of about 50% of the dental caries.

"4. Dental caries again becomes rampant and gingivitis reappears in most of the cases when the citrus fruit intake is reduced to 3 ounces a day for a year. This quantity is not enough.

"5. Children display a definite tendency toward the development of carious lesions which is nil or low in some cases and high in others. The administration of an adequate amount of citrus fruit juice to a diet that is nearly adequate in other respects reduces the intensity of the caries process but does not completely remove the effects of the inherent tendency in all cases.

"6. Orange and lemon juice contain something that acts as a growth stimulant to children."

Following these general observations, the reviewer in a detailed criticism, finds much in Hanke's book that is "evasive and frankly debatable," also much that can "scarcely claim to be more than possible." Judging by the prefatory statement of members of the Chicago Dental Research Club, there was "conviction" as to the outcome at the outset and before the tests were made. Moreover, it was extremely difficult or impossible for the two dentists making examinations to remain objective in their examinations and estimates since they must have known when the children were on the test periods. Many doctrines dogmatically stated are by no means officially accepted. Some are at best but "theories of probabilities." There is too much inference that vitamin C is the effective factor—; little recognition is given to other factors; Bunting, Boyd and Drain, Agnew, and others also secured arrest of caries by quite different procedures. The principal criticism of the dietary program is that there are no records for the intake of individual children; food supplies are reported in terms of the entire group. What assurance is there that "all these children were ingesting the same food and they were living under identical conditions" so that food and living conditions could be eliminated as possible factors. One cannot know what effect the addition daily of a pint of orange juice had on the food

habits of the children. The author to a great extent ignored age as an important factor in incidence of caries.

Concluding, the reviewer says that the book does not furnish cogent evidence for the thesis that orange and lemon juices are specifics for the cure or prevention of gingivitis and caries. The bibliography provides some important published reports on the subject and a number of plates illustrate the oral conditions discussed.

—*C. R.*

Lehrbuch der Mund- und Rachenkrankheiten. Textbook of Mouth and Throat Diseases. By Berberich, Josef, Editor. 587 pages, with 213 illustrations. 1932. (Leipzig) Review, J. A. M. A., c(8): 606. Feb., 1933.

This volume covers the field of the diseases of the mouth and throat, including tumors but excluding those produced by injury. It is the joint product of fourteen authors, a division of labor that enhances the value of the work but which introduces some variation in the form and arrangement of the subject matter. There is an adequate index and each section is followed by a limited list of references to the literature. The illustrations are well-chosen and clearly reproduced on good paper. The sections on the manifestations of systemic diseases in the mouth and throat and the mouth lesions of skin disorders are unusually complete and cover fields that, as a rule, receive scant attention in American textbooks on diseases of the mouth. The chapter on the bacteriology of the mouth is conspicuous because of the absence of names such as B. acidophilus, and the presence of others relatively unfamiliar in the English literature. On the other hand it includes a well written discussion of the mouth as a focus of infection. Occasional statements are encountered that are not in harmony with the best modern practice, such as (page 321): "Therapy of fibrous epulis consists in radical excision including the base, and as a rule including the tooth adjacent thereto." Of course, it is rarely necessary to extract the tooth in this form of epulis. This book is a valuable addition to the literature of mouth diseases and, together with the Sonntag-Rosenthal textbook on surgical conditions of the mouth and jaws, covers the whole range of this field in an adequate and scholarly manner.

—*Copy.*

Paradentose und Orthodontie vom Standpunkt der Ueberlastung und der Psychoanalyse. Paradentosis and Orthodontia from the Standpoint of Traumatic Occlusion and Psychoanalysis. By Dr. Paul Oppler. Zahnärztliche Rundschau, xlii: 261-268. 1933.

In the main, Dr. Oppler's article consists of reviews of two books; one by Dr. Emil Kiefer on traumatic occlusion ("Paradentosebehandlung mit besonderer Berucksichtigung der Entlastung"—Berlin), and one by Dr. Hans Sachs on the mental problem of the patient ("Die Paradentose im Lichte der Leib-Seele-Einheit"—Berlin).

Kiefer, in opposition to Gottlieb, sees traumatec occlusion as the chief etiological cause of Paradentosis, and even gives a form, with which to determine the degree of loosening. The major point in Kiefer's sliding-articulation, consists in the grinding of the front teeth and the longer side teeth so that in articulation the greatest possible number of antagonistic teeth will occlude with one another.

The method of Sachs consists of writing down the spontaneously uttered remarks of the patient, gathering them together, and out of this collection to read some conclusion. In this way he believes he can picture the connection of Body and Soul with diseases of the teeth. He cites many cases in which dental diseases directly affects both mental and bodily organization. Of course, treatment of paradentosis through psychoanalysis can apply only to a very small percentage of the cases, but it is of real value where no physical cause can be ascribed.

—*J. G. O.*

Pathologie Buccale: Peri-buccale et d'Origine Buccale. By Drs. Rousseau-Decelle et Raison (Paris). La Pratique Stomatologique. Publiee sous direction du Dr. Chompret et autres. 576 pp.; 196 illustrations. Review in: Brit. D. J. June, 1933.

This volume is the first of a series of ten volumes covering the practice of Stomatology. In the following volumes, Dental

Pathology, Oral Surgery, Operative Dental Surgery, Orthodontics, Prosthetics and Restorations, etc., are to be treated.

Volume I is in two parts, the first and larger part dealing with pathological conditions in the mouth (lips, tongue, and associated soft tissues) and the second mainly deals with the manifestations of general conditions and diseases in the oral cavity. The first part commences with abnormalities in development leading to clefts and fissures, various inflammations and ulcerations, leucoplakias, tumors (malignant and innocent), affections of the bone, glands and temporo maxillary joints. The sections on tubercular infections and syphilitic infections in all their stages, particularly primary infections of the lips, tongue, and even the gingivae are unique and complete. Each section commences with . . . a brief resumé of the anatomy of the part, and when necessary with the relative physiology before dealing with the diseased conditions.

In the second part the effects of the administration of drugs, general conditions, such as malnutrition, scurvy and rickets, disturbances of the endocrine glands, the eye, rheumatism, etc., affections of the blood (leukaemias, anemias, hemophilias), and their effects in the oral cavity are fully dealt with.

The book throughout is well illustrated and makes one regret that colour photography is not yet readily possible, as so much depends on not only the form but the colour and appearance of the diseases. If the succeeding volumes, particularly those dealing with Dental Pathology and Dental Surgery, including Operative Dental Surgery, and Restorations are as complete as Volume I the series will make a very valuable addition to the literature of Dental Surgery. The present publication brings together in one volume a very complete history of buccal infections and should prove of extreme value to the general practitioner. In a lesser degree it would form a very useful addition (if published in English) to the dental student and practitioner.

—*Copy.*

Die Veränderungen der Gewebe die Uebermaessiger Beanspruchung der Zähne. By Gottlieb, B. and Orban, B. (Vienna). A critical review by Charles F. Bodecker, D. D. S., in: Int. J. Ortho. xviii(9): 895-917. Sept., 1933.

Dr. Bodecker believes this work of Drs. Gottlieb and Orban to be "one of the most valuable contributions that the science of orthodontia has received in years." They discuss the effect of varying degrees of pressure and tension on the peridental membrane, cementum and bone. Accompanying the review are a large number of excellent illustrations.

Of special interest to periodontists Gottlieb and Orban found that in not one experiment which they performed was there a loosening of the teeth if the traumatic stress was applied along the axis of the tooth. Only when the stress was more nearly lateral did it cause a permanent loosening of the teeth. On the basis of their experiments the authors believe that traumatic occlusion does not cause a proliferation of epithelium attachment into the depths of the gingival crevice.

—*M. S. W.*

Zahnfleischentzundung und Zahnlockerung. Periodontal Inflammation and Loosening of the Teeth. Drs. B. Gottlieb and B. Orban (Vienna). Berlinische Verlagsanstalt. Berlin. Review, in J. Am. Dent. A., xxi: 1522. Aug., 1934.

The tremendous impulse given to histopathological research within the past 15 years dates from the advent of Dr. Bernhard Gottlieb and his diligent co-workers in the field and a large amount of the work done in their laboratory in Vienna has been concerned with problems directly involved in alveolar pyorrhea. A great deal of highly controversial material has, of course, been published. As a result, there still exists a great deal of confusion in the minds of those who have not followed or been able to follow very conscientiously the material as it has been published. Therefore, the authors have very aptly chosen this time to summarize and publish in book form all that is known to them on this very live subject. The book is divided into nine chapters. The first three are in a way introductory to the study of alveolar pyorrhea; yet they contain a great portion of the meat of the entire book. Whether one does or does not subscribe to the conception of continuous eruption as developed by the

Vienna school, it is imperative that one know the facts concerned with the wide variation that takes place in the so-called normal behavior of the investing tissues. The authors have conclusively shown, with illustrations from models, gross specimens, and histopathologic sections, that we are, throughout life, confronted with a wide variation of important changes in the normal dentures. These are chiefly: mesial movement of all teeth, occlusal movement of all teeth, recession apically of all investing tissues, abrasion, tooth loss and its effects on adjacent as well as occluding teeth, lack of function of some teeth and increased function in others, etc. This conception is positively indispensable for a correct appraisal of pathologic processes, which are usually superimposed on many of these normal changes.

In Chap. III, illustration 104, the authors emphasize a very important fact, namely, the variations in length of teeth in different individuals. It is stated that "the usefulness of teeth is dependent upon the length of their clinical roots." In attempting an appraisal of the probable prognosis of any treatment, this fact becomes all-important.

In the two succeeding chapters, the actual disease is discussed. Dr. Gottlieb and his pupils have always approached the problem on the supposition that the bulk of the cases of so-called pyorrhea are caused by lack of dental hygiene. They have, therefore, called these cases filth pyorrhea. In contrast, they have called those cases that are not of filth origin paradental pyorrhea and diffuse atrophy. For a clinical differential diagnosis, the mouth should be cleaned up and the patient instructed as to proper care. If the condition responds readily, the assumption of filth pyorrhea is justified. If the case does not respond to this treatment, although one is positive that the patient is doing his part, it is quite clear that something more than poor hygiene and filth pyorrhea are present. Such cases are not large in number and have their origin in some systemic disturbance. They require systemic treatment.

In Chap. VII, traumatic occlusion is evaluated and put in its proper place. The remaining chapters are devoted entirely to intensely important discussions of treatment, including the proper method of brushing teeth, scaling, surgical excision of gingival flaps, Dunlop oxygen, fixation of treated teeth and factors in making partial restorations after the loss of teeth from pyorrhea.

The authors have avoided the introduction of controversial material and have confined themselves to the description of their own findings and their own procedures. They have succeeded admirably in simplifying a subject which has been confused almost universally by the introduction of a complicated system of nomenclature. The book is indispensable to research workers and general practitioners alike. In addition to being research men, the authors are practical dentists. The illustrations throughout the book are excellent. All important statements are amply backed by histopathologic evidence. To followers of the Vienna School, this book is essential. To others it offers an opportunity to become informed as to the teachings of the school. The authors deserve unlimited praise for their contribution to the field of research and clinical practice. —*Emil Mueller.*

Les paradentopaths: leurs traitements. The paradentopathies: their treatments. (In preparation). By Prof. Charles Hulin, Paris. Sem. Dentaire: 687-688. 1933

The author announces the appearance in the near future of a text in which he will present his conceptions of the local and general etiology of pyorrhea alveolaris and also a detailed exposition of the therapeutic technique he employs in treatment. The work will further contain a revision of the pharmacodynamic properties of all sclerosing agents. —*G. H.*

Bacterial Infection, with Special Reference to Dental Practice. By J. L. T. Appleton, Jr., B. S., D. D. S., Professor of Microbiology and Bacteriopathology, in the Thos. W. Evans Museum and Dental Institute School of Dentistry. Second Edition. 654 pages with 126 illustrations. 1933.

Mouth Infections and their Relation to Systemic Diseases: A Review of the Literature. By Malcolm Graeme MacNevin, M. D., Visiting Physician and Clinical Director, Southern Pacific General Hospital, San Francisco, and Harold Stearns Vaughn, M. D., D. D. S., F. A. C. S., Professor of Oral Surgery, New York Post-Graduate Medical School and Hospital. Volume II. 395 pages (New York). 1933.